TRANSCRIPT OF R[illegible]

SUPREME COURT OF THE UNITED [illegible]

OCTOBER TERM, 1[illegible].

No. [illegible] 68

HAMLINE Q. FRENCH, APPELLANT,

vs.

OLIVER S. CARTER, GEORGE MARK, AND MILTON S. [illegible] JOHN.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK.

FILED JULY 22, 1857.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1889.

No. 359.

HAMLINE Q. FRENCH, APPELLANT,

vs.

OLIVER S. CARTER, GEORGE MARK, AND MILTON H. ST. JOHN.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK.

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1 The President of the United States of America to Oliver [L. S.] S. Carter, George Mark, and Milton H. St. John, Greeting:

You are hereby commanded that you and each of you personally appear before the judges of the circuit court of the United States of America for the southern district of New York, in the second circuit court, in equity, on the first Monday of July, A. D. 1882, wherever the said court shall then be, to answer a bill of complaint exhibited against you in the said court by Hamline Q. French, and do further and receive what the said court shall have considered in that behalf; and this you are not to omit under the penalty on you and each of you of two hundred and fifty dollars.

Witness Honorable Morrison R. Waite, Chief Justice of the Supreme Court of the United States, at the city of New York, on the seventeenth day of May, in the year one thousand eight hundred and eighty-two, and of the Independence of the United States of America the one hundred and sixth.

J. M. DEUEL, *Clerk.*

C. B. RUNNEL,
Complainant's Sol'r.

The defendants are required to enter appearance in the above cause in the clerk's office of this court on or before the first Monday of July, 1882, or the bill will be taken *pro confesso* against them.

J. M. D., *Clerk.*

2 (Endorsed:) I hereby certify that on the 17th day of May, 1882, at the city of New York, in my district, I personally served the within subpœna upon the within-named Oliver S. Carter & Milton H. St. John by exhibiting to them the within original, and at the same time leaving with them a copy thereof dated ——, 18—. (S'g'd) Henry E. Knox, U. S. marshal, S. D. N. Y. Joseph M. Deuel, clerk. (File-mark:) U. S. circuit court. Filed June 6, 1882.

3 Circuit Court of the United States for the Southern District of New York.

HAMLINE Q. FRENCH
against.
OLIVER S. CARTER, GEORGE H. MARKS, and MILTON H. ST. JOHN. } In Equity.

To the judges of the circuit court of the United States for the southern district of New York:

Hamline Q. French, of the city, county, and State of New York and a citizen of said State and of the United States, brings this his bill of complaint against Oliver S. Carter, George H. Marks, and Milton H. St. John, of the city, county, and State of New York and citizens of the said State of New York and of the United States; and

thereupon your orator complains and says that heretofore and before the 12th day of July, 1881, your orator was the original and first inventor of a certain new and useful improvement in structures for a "roof for vaults," and that said new and useful improvement in structures for a roof for vaults was not known or used by others before the invention thereof by your orator, and was not at the time of the application of your orator for a patent therefor, as
4 hereinafter mentioned, in public use or on sale with the consent or allowance of your orator as the inventor of the same, contrary to the provisions of the statutes of the United States in such case made and provided; that your orator, so being such inventor, and desiring to obtain an exclusive property in said improvement in structures for a roof for vaults, paid into the Treasury of the United States the sum of thirty-five dollars, and made application in writing to the Commissioner of Patents of the United States expressing such desire, and delivered to said Commissioner of Patents a written description of said structure and of the manner and process of making the same in such full, clear, and exact terms, avoiding unnecessary prolixity, as to enable any person skilled in the art to which such structure appertains or is most nearly connected to make and use the same; that in the said description your orator fully explained the principle in which he had contemplated the application of the principle or character by which the said structure might be distinguished from other inventions; that in the said description your orator specified and pointed out the improvement which he claimed as his own invention; that the said description was signed by your orator and was attested by two witnesses and was filed in the Patent Office of the United States.

That in connection with the said application your orator made oath before a person authorized by law to administer oaths that he did verily believe that he was the original and first inventor or discoverer of said improvement, and that the same had not, to the best of his knowledge and belief, been previously known or used, and that he was a citizen of the United States, and duly complied in all respects with all the necessary conditions and requirements of the statutes of the United States in such case made and provided prior to the granting of the letters patent hereinafter mentioned; that the said Commissioner of Patents thereupon granted and
5 issued to your orator letters patent for the said improvement; that said letters patent were issued from the Patent Office in the name of the United States and under the seal of said office, and were signed by the Secretary of the Interior of the United States, and were countersigned by the Commissioner of Patents, and were recorded, together with the said description, in the Patent Office, in books kept for that purpose; that said letters patent contained a short description or title of said improvement, correctly indicating its nature or design, and in its terms granted to your orator, his heirs or assigns, for the term of seventeen years from the 12th day of July, one thousand eight hundred and eighty-one, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used the said improvement, referring

to the said specification for the particulars thereof, a copy of which was annexed to said letters patent, specifying what your orator claimed as his invention, and that the said letters patent were delivered to your orator, all of which was done under and according to the provisions of the acts of Congress in such case made and provided, as by the said letters patent, description, and specification will more fully appear, to which or to the records of which or to a duly certified copy of the records of which, for greater particularity and certainty, your orator craves leave to refer. (See Schedule "A," hereto annexed.)

And your orator avers that by reason of the premises hereinbefore set forth he became and is now entitled to and possessed of the full and exclusive right and liberty of making, constructing, using and vending to others to be used the improvement described and claimed in the said schedule annexed to the said letters patent within the United States from the 12th day of July, 1881, until the expiration of the term of seventeen years thereafter, and also
6 of the exclusive right, title, and interest in and to all uncollected damages and claims for damages for or growing out of infringements of said patent within the said United States, as aforesaid, since and after the 12th day of July, 1881, and is authorized and empowered to prosecute for in his own name and to recover for his own use said claim for damages for infringement of said patent, and is entitled to sue for and receive in this suit and to receive to his own use all the damages and profits for which the defendants are liable for the unlawful use or manufacture or vending by them of the invention covered by the said letters patent.

And your orator further shows unto your honors that ever since the third day of August, 1881, the defendants, well knowing the premises and the rights and privileges secured to your orator by the said letters patent so granted to him, but contriving to injure your orator and to deprive him of the profits, benefits, and advantages which might and otherwise would have accrued to your orator, at the city and county of New York and the county of Essex, in the State of New Jersey, and without the license or permission of your orator and against his will, have unlawfully and wrongfully worked or caused to be worked, made, and constructed and continue to make and use the said structure or structures for roofs of vaults so patented and described and claimed in the before-recited letters patent.

And your orator avers that the defendants have derived and received and are still deriving and receiving from the making and using said process for making improved structures for roofs for vaults described and claimed in said letters patent and the schedule attached thereto, and using the same, great gains and profits, but to what amount your orator is ignorant and cannot set forth, though he believes the same to be of the full sum of three thousand dollars, and so charges the fact to be, and prays that the defendants may be required to make disclosure of all such gains and profits.

7 And your orator avers that the defendants continue to work and construct and use roofs for vaults after the manner of and pursuant to the said improvement so described and claimed in said letters patent, and refuse to desist from such working or pay to your orator the said gains and profits, by means whereof the defendants have greatly injured and are still greatly injuring your orator, and have deprived and are still depriving your orator from obtaining and receiving the gains and profits from the use of said invention and improvements claimed in said schedule annexed to said letters patent so granted to your orator, which your orator otherwise, and but for the said acts of the defendant-, would have obtained and received.

And your orator prays that the defendants and each of them may be compelled, by a decree of this court, to account for and pay over to your orator all such gains and profits as have accrued or arisen to or been earned or received by the defendants, and all such gains and profits as he has been entitled to by means of such use by them of said invention and improvement claimed in the specification of claims in said schedule annexed to said letters patent, and all such gains and profits as your orator would have received but for the said unlawful acts and doings of the defendants, and that the defendants and attorneys, solicitors, servants, agents, and workmen may be perpetually enjoined and restrained by the decree and injunction of this court from working or causing to be worked any structure for roofs for vaults embodying or containing any of the inventions and improvements described and claimed in the said schedule annexed to the said letters patent, and from infringing upon or violating in any way whatever said letters patent.

And your orator further prays that the defendants may be decreed to pay the costs of this suit, and that your orator may have such further relief or that your orator may have such other
8 relief as the equity of this case may require and as your honors may deem meet.

To the end, therefore, that the defendants may, if they can, show why your orator should not have the relief hereby prayed, and may true, full, direct, and proper answer make, according to the best of their knowledge, remembrance, information, and belief, to the several matters hereinbefore stated, averred, and charged as fully and particularly as if the same were here repeated paragraph by paragraph and they were specially interrogated thereunto severally—

May it please your honors to grant to your orator a writ of subpœna *ad respondendum*, issuing out of and under the seal of this court, directed to the defendants, Oliver S. Carter, George H. Marks, and Milton H. St. John, commanding them to appear and make answer to this bill of complaint and to perform and abide by such order and decree herein as to this court may seem required by the principles of equity and good conscience. May it please your honors to grant to your orator a provisional or preliminary injunction issuing out of and under the seal of this honorable court, enjoining and restraining the defendants, their attorneys, solicitors, servants,

agents, and workmen, to the same purport, terms, and effect hereinbefore prayed for in regard to said perpetual injunction.

And your orator will ever pray, &c.

L. B. BUNNELL,
Plaintiff's Attorney, 170 *Broadway*.

STATE OF NEW YORK,
City and County of New York, } ss:

Hamline Q. French, the plaintiff in the foregoing bill of complaint, appeared before me on this 15th day of May, 1882, and signed the same, and, being by me duly sworn, did depose and say that the said bill of complaint was true to his own knowledge except as to the matters therein alleged to be stated upon information and belief, and as to those matters he believes it to be true.

HAMLINE Q. FRENCH.

Sworn to before me this 15th day of May, 1882.

WM. M. ADLER,
Notary Public, N. Y. Co.

(Endorsed:) United States circuit court. Hamline Q. French ag'st Oliver S. Carter and others. Bill of complaint. L. B. Bunnell, solicitor for plaintiff, 170 B'way, N. Y. U. S. circuit court. Filed May 17, 1882. Joseph M. Deuel, clerk.

9 United States Circuit Court, Southern District of New York.

HAMLINE Q. FRENCH
against
OLIVER S. CARTER, GEORGE MARK, and MILTON H. ST. JOHN. } Notice of Appearance.

SIR: Please to take notice that the defendants, George Mark & Milton H. St. John, appear in this action, and that we are retained as attorneys for them therein.

Dated New York, June 27th, 1882.

Yours, &c., KNEVALS & RANSOM,
Defendants' Attorneys.

Office address, Nos. 155 & 157 Broadway, N. Y. city.

(Endorsed:) U. S. circuit court. Filed June 27, 1882. Joseph M. Deuel, clerk.

10 U. S. Circuit Court, Southern District of New York.

HAMLINE Q. FRENCH, Plaintiff,
against
OLIVER S. CARTER, GEORGE MARK, and MILTON H. ST. JOHN, Defendants. } Notice of Appearance.

Please to take notice that we are retained by and appear for Oliver S. Carter, one of the defendants in this action.

Dated May 23rd, 1882.

MACFARLAND, REYNOLDS & LOWREY,
Solicitors for Defendant Carter.

Office address, No-. 59 & 61 Wall St., New York city.

To Joseph M. Deuel, clerk of U. S. circuit court, southern district of N. Y.

(Endorsed:) U. S. circuit court. Filed May 24, 1882. Joseph M. Deuel, clerk.

11 *Answer.*

Circuit Court of the United States for the Southern District of New York.

HAMLINE Q. FRENCH
against
OLIVER S. CARTER, GEORGE MARK, and MILTON H. ST. JOHN.

The answer of George Mark and Milton H. St. John, two of the defendants herein, to the bill of complaint of Hamline Q. French, complainant.

The said defendants, reserving all right of exception to said bill of complaint, for answer thereto say:

They admit that letters patent of the United States were issued on or about the 12th day of July, 1881, to the complainant, Hamline Q. French, for an alleged new and useful improvement in structures for a roof for vaults, but they deny that said letters patent were lawfully issued or that said alleged improvement in structures for a roof for vaults was unknown or was not in public use or on sale at the time of the application of the complainant for letters patent therefor, or had not been for more than two years prior to such application, or that he was the original and first inventor thereof, or that he obtained any exclusive right or liberty by reason of said patent to make, construct, use, or vend to others to use such improvement in structures for a roof for vaults.

And said defendants deny that since the issuing of said letters patent the alleged invention therein described is or has been of great value to the complainant, or that complainant has or would have obtained greater or any profits from the manufacture of the same, or would be in the undisputed use and enjoyment of
12 the rights claimed by him under said letters patent but for the acts and doings of the said defendants.

Said defendants, further answering, deny that since the third day of August, 1881, at Orange, in the county of Essex and State of New Jersey, or at any other time or place, they have unlawfully or wrongfully worked or caused to be worked, made, constructed, and used, or that they unlawfully or wrongfully continue to make, construct-

use, or vend to others to use the improvement in structures for roof, for vaults described and claimed in said letters patent, or that they have continued to injure the complainant or deprive him of any profits, benefits, or advantages which might and otherwise would have accrued to him, or that said defendants have unlawfully and wrongfully derived or received, or are still unlawfully deriving or receiving, any gains or profits from the working and using said process or method for making improved structures for roofs for vaults as set forth in said bill of complaint.

And said defendants, further answering, deny that they continued to work, construct, and use roofs for vaults after the manner of and upon the principle of the said alleged means whereof the complainant has been greatly injured, or injured in any manner or form whatsoever, or that they have deprived or are still depriving the complainant from receiving any gains and profits whatsoever which said complainant otherwise, but for the said acts of the said defendants, would have obtained or received.

And said defendants deny that they have done any wrong or injury to the complainant, or that they have in any way infringed upon or invaded any of his rights, or that they have wrongfully made, used, or vended to others to use any improvement in structures for a roof for vaults first invented or discovered by said complainant.

13 And said defendants, further answering, say that said supposed improvements in said letters patent described and all substantial and material parts thereof were, prior to the alleged invention as therein contained and in said bill of complaint set forth, made, constructed, and used, and were described in the following printed publication, to wit:

In a vault in Greenwood cemetery, in the city of Brooklyn, county of Kings and State of New York, known as the "Beekman" vault, made, constructed, and used in the years 1878 and 1879; in a vault in the said cemetery known as the — vault, made, constructed, and used in or before the year 1876.

Described in the printed publication known as "Revue Generale de l'Architecture et des — Publics," volume 13, plates 43 and 44, and elsewhere, said printed publication being a public work published in France in the year 1855, and thereafter and for many years anterior to the supposed invention aforesaid to be found in the public libraries and elsewhere in the United States.

And that said alleged improvements were also made, constructed, and used and were described in printed publications, as the said defendants believe, not now within the knowledge of the defendants, to which the said defendants beg leave to refer by amendments to this answer when they shall become known to the said defendants; and the said defendants respectfully submit to this court that the complainant has no right to any further answer than is above given, and no right to any injunction or other relief prayed for by said bill, and they deny that any matter or thing in said complainant's bill contained and not herein and hereby well and sufficiently answered is true to the knowledge and belief of said defendants, and

pray to be hence discharged with their reasonable costs in this behalf most wrongfully sustained.

GEORGE MARK.
MILTON H. ST. JOHN.

KNEVALS & RANSOM,
Solicitors and of Counsel.

14 UNITED STATES OF AMERICA, } ss:
City and County of New York, }

Milton H. St. John, being duly sworn, deposes and says that he is one of the defendants answering hereby to the bill of complaint, said defendants being united in interest; that he has read the foregoing answer and knows the contents thereof; that the same is true of his own knowledge except as to those matters therein stated to be alleged on information and belief, and that as to those matters he believes it to be true.

MILTON H. ST. JOHN.

Sworn to before me this 28th day of July, 1882.
ALBERT P. MORIARTY,
Notary Public, Kings County, N. Y.

Cert. filed in N. Y. Co.

Circuit Court of the United States, Southern District of New York.

HAMLINE Q. FRENCH
against
OLIVER S. CARTER, GEORGE MARK, and MILTON H. ST. JOHN.

The answer of Oliver S. Carter, one of the defendants, to the bill of complaint of Hamline Q. French, complainant.

This defendant, now — at all times hereafter saving and reserving unto himself all benefit and advantage of exception which can or may be had or taken to the many errors, uncertainties, and
15 other imperfections in the said complainant's said bill of complaint contained, for answer thereto, or to so much and such parts thereof as this defendant is advised is or are material or necessary for him to make answer unto, saith:

This defendant has no knowledge or information sufficient to form a belief as to whether letters patent for a new and useful improvement in structures for a roof for vaults were issued to the plaintiff, as is alleged in said bill of complaint.

This defendant, on information and belief, alleges that the said pretended improvement in structures for a roof for vaults was known and in public use long prior to the pretended application of complainant for such alleged letters patent, and that complainant was not the original and first inventor of said improvement, and did not and could not by such pretended letters patent obtain any exclusive right or liberty thereby to use or vend or to sell to others to use such alleged improvements in structures for vaults.

This defendant, on information and belief, avers that the said pretended improvements in said letters patent described and all substantial and material parts thereof were, prior to the alleged invention as therein contained and in said bill of complaint set forth, constructed and used, and were described in the following printed publications, to wit:

In a vault in Greenwood cemetery, in the city of Brooklyn, county of Kings and State of New York, known as the Beekman vault, made, constructed, and used in the years 1878 and 1879.

In another vault in said cemetery, made, constructed, and used on or before the year 1876.

Described in the printed publications known as "Revue Générale de l'Architecture et des Travaux Publics," volume 13, plates 43 and 44, and elsewhere, said printed publication being a public work published in France in the year 1855, and thereafter and for many years anterior to the pretended invention
16 aforesaid to be found in the public libraries and elsewhere inthe United States.

This defendant denies that since the third day of August, 1881, at Orange, New Jersey, or elsewhere he has unlawfully or wrongfully worked or caused to be worked, made, constructed, and used the said improved structure for roofs for vaults so claimed to have been patented by this complainant, or that he has contrived to injure the complainant or deprive him of any profits, benefit, or advantage which might and otherwise would have accrued to him, or that he has in any way infringed upon or invaded any of his rights.

He has no information as to the several other allegations in the said bill of complaint contained.

And the defendant denies that there is any other matter, cause, or thing in the said complainant's said bill of complaint contained material or necessary for this defendant to make answer unto and not herein and hereby well and sufficiently answered, confessed, traversed, and avoided or denied.

And this defendant humbly prays to be hence dismissed with his reasonable costs and charges in this behalf most wrongfully sustained.

OLIVER S. CARTER.

MACFARLAND, REYNOLDS & LOWREY,
Sol's Def't Carter.

W. W. MACFARLAND, *Of Counsel.*

17 UNITED STATES OF AMERICA,
Southern District of New York, } *ss:*
City and County of New York,

Oliver S. Carter, being duly sworn, deposes and says that he is the defendant named in the foregoing answer; that he has read the foregoing answer and knows the contents thereof; that the same is true of his own knowledge except as to those matters therein stated

to be alleged on information and belief, and as to those matters he believes it to be true.

OLIVER S. CARTER.

Subscribed and sworn to before me this 31st day of March, 1883.
[L. S.] RO. L. HARRISON,
Notary Public, N. Y. Co.

(Endorsed:) U. S. circuit court, southern dist. of N. Y. Hamline Q. French *vs.* Oliver S. Carter *et als.* Answer of def't, Oliver S. Carter. MacFarland, Reynolds & Lowrey, sol'rs for def't Carter, 59 & 61 Wall St., N. Y. (File mark.) U. S. circuit court. Filed Apr. 2, 1883. Timothy Griffith, clerk.

18 *Replication.*

United States Circuit Court, Southern District of New York.

HAMLINE Q. FRENCH, Complainant,
vs.
OLIVER S. CARTER, GEORGE MARK, and MILTON H. ST. JOHN, Defendants. } In Equity.

To the Honorable William J. Wallace, judge of the U. S. circuit court, southern district of New York:

This repliant, saving and reserving unto himself all and all manner of advantages of exception to the manifold insufficiencies of the several answers of Oliver S. Carter, George Mark, and Milton H. St. John herein, for replication thereunto says that he will aver and prove his said bill to be true, certain, and sufficient in the law to be answered unto, and that the said answer is uncertain, untrue, and insufficient to be replied unto by this repliant, without this, and that any other matter or thing whatever in said answer contained material or effectual in the law to be replied unto, confessed and avoided, traversed or denied, is true.

All which matters and things this repliant is and will be ready to aver and prove as this honorable court shall direct, and humbly prays as in and by his said bill he has already prayed.

Dated New York, April 6, 1882.

L. B. BUNNELL,
Complainant's Solicitor, 170 *Broadway, New York.*

(Endorsed:) U. S. circuit court. Hamline Q. French against Oliver S. Carter & others. Replication. L. B. Bunnell, complainant's solicitor, 170 B'way, N. Y. U. S. circuit court. Filed Dec. 8, 1882. Joseph M. Deuel, clerk.

19 United States Circuit Court, Southern District of New York.

HAMLINE Q. FRENCH
vs.
OLIVER S. CARTER, GEORGE MARK, and MILTON H. ST. JOHN. } In Equity.

It is hereby consented that the answer of the defendant Carter be amended as follows:

1. By inserting after the words "obtain any exclusive right or liberty thereby to use or vend or to sell to others to use such alleged improvements in structures for vaults" the following:

"And this defendant, further answering on information and belief, denies that the complainant delivered to the Commissioner of Patents a written description of said alleged improvement or of the manner or process of making the same in such full, clear, or
20 exact terms as to enable any person skilled in the art to which said alleged improvement appertains or is most nearly connected to make or use the same, or that in the description delivered to the said Commissioner by the complainant he fully explained the principle in which he had contemplated the application of the principle or character by which the said alleged improved structure might be distinguished from other inventions, or that the complainant, prior to the granting of said letters patent, duly complied in all respects with *with* all the necessary conditions or requirements of the statutes of the United States in such case made and provided."

2. By inserting after the words "to be found in the public libraries and elsewhere in the United States" the following:

"And this defendant, further answering on information and belief, avers that the specification annexed to said letters patent is not in such full, clear, concise, or exact terms as to enable any person
21 skilled in the art to *to* which it appertains or with which it is most nearly connected to make, construct, or use the same; that said specification is materially defective, insufficient, and misleading; that a structure built according to said specification, to wit, with the capstone lapping at each side upon the roof stones on any portion of its length less than the whole would not possess the advantages set forth therein, and that said specification contains less than the whole truth relative to the alleged invention of the complainant.

"And this defendant, further answering on information and belief, avers that for the purpose of deceiving the public the description and specification filed by the complainant in the Patent Office on his application for said letters patent was made to contain less than the whole truth relative to his alleged invention."

It is further consented that on the filing of this stipulation the said answer be considered as so amended, and that the replication already filed be considered as a replication to the answer as
22 so amended.

Dated April 30, 1885.

L. B. BUNNELL,
Complainant's Solicitor.
KNEVALS & RANSOM,
Of Counsel for Def't Carter.

(Endorsed:) U. S. circuit court, south'n dist. N. Y. In equity. Hamline Q. French *vs.* Oliver S. Carter & *al.* Amendment to answer of defendant Carter. Knevals & Ransom, of counsel for defendant Carter, 32 Nassau St., N. Y. city. U. S. circuit court. Filed May 21, 1885. Timothy Griffith, clerk.

23 United States Circuit Court, Southern District of New York.
In Equity.

HAMLINE Q. FRENCH
vs.
OLIVER S. CARTER, GEORGE MARK, and MILTON H. ST. JOHN.

It is hereby consented that the answer of the defendants, Mark and St. John, be amended as follows:

1. By inserting after the words "or that he obtained any exclusive right or liberty by reason of said patent to make, construct, use, or vend to others to use such improvement in structures for a roof for vaults" the following:

"And these defendants, further answering on information and belief, deny that the complainant delivered to the Commissioner of Patents a written description of said alleged improvement or of the manner or process of making the same in such full, clear, or exact terms as to enable any person skilled in the art to which said
24 alleged improvement appertains or is most nearly connected to make or use the same, or that in the description delivered to the said Commissioner by the complainant he fully explained the principle in which he had contemplated the application of the principle or character by which the said alleged improved structure might be distinguished from other inventions, or that the complainant, prior to the granting of said letters patent, duly complied in all respects with all the necessary conditions or requirements of the statutes of the United States in such case made and provided."

2. By inserting after the words "or that they have wrongfully made, used, or vended to others to use any improvement in structures for a roof for vaults first invented or discovered by said complainant" the following:

"And these defendants, further answering on information and belief, aver that the specification annexed to said letters patent is not in such full, clear, concise, or exact terms as to enable any person skilled in the art to which it appertains or with which it is most nearly connected to make construct, or use the same; that
25 said specification is materially defective, insufficient, and misleading; that a structure built according to said specification, to wit, with the capstone lapping at each side upon the roof stones on any portion of its length less than the whole, would not possess the advantages set forth therein, and that said specification contains less than the whole truth relative to the alleged invention of the complainant.

"And these defendants, further answering on information and belief, aver that for the purpose of deceiving the public the descrip-

tion and specification filed by the complainant in the Patent Office on his application for said letters patent was made to contain less than the whole truth relative to his alleged invention."

It is further consented that on the filing of this stipulation the said answer be considered as so amended, and that the replication already filed be considered as a replication to the answer as amended.

Dated April 30, 1885.

(S'g'd) L. B. BUNNELL,
Complainant's Solicitor.

(S'g'd) KNEVALS & RANSOM,
26 *Defendants' Solicitors.*

(Endorsed:) U. S. circuit c't, south'n dist. N. Y. In equity. Hamline Q. French *vs.* Oliver S. Carter & *als.* Amendment to answer of defendants. Mark & St. John. Knevals & Ransom, sol'rs for defendants. Mark & St. John, 32 Nassau St., N. Y. city. U. S. circuit court. Filed May 21, 1885. Timothy Griffith, clerk.

27 United States Circuit Court, Southern District of New York.

HAMLINE Q. FRENCH
against
OLIVER S. CARTER, GEORGE H. MARK, and MILTON H. ST. JOHN.

NEW YORK, *April 13th*, 1883.

Appearances: L. B. Bunnell, for plaintiff; Rastus S. Ransom, for defendants.

This testimony is taken pursuant to an order made April 6th, 1883, whereby Edward J. Knauer, Esq., was appointed a special examiner.

HAMLINE Q. FRENCH, being duly sworn in his own behalf, testified as follows:

Direct examination of Mr. BUNNELL:

1 Q. Mr. French, you are the plaintiff in this action?
A. I am.
2 Q. Where do you reside?
A. Pelham Manor, New York.
3 Q. What is your business?
A. I suppose a contractor, properly, and merchant.
4 Q. Do you know the defendants in this action?
A. Yes, sir.
5 Q. Did you apply for and were there granted to you letters patent by the United States at any time?
A. Yes, sir.
6 Q. Will you produce those letters patent?
A. Here they are (witness exhibiting letters patent).

28 (Letters patent referred to, namely, No. 244,224, offered in evidence and marked Plaintiff's Exhibit No. 1, April 13, 1883.)

7. Have you any knowledge of your own of the structure or building of a vault in Orange, New Jersey, by the defendant herein?

A. I have.

8 Q. For whom was the vault to be erected?

(Objected to by defendants' counsel.)

9 Q. Did you have any conversation with the defendant Carter at that time relative to the construction or building of a vault for him?

A. I did.

10 Q. State what the conversation was.

A. Mr. Carter called upon me——

11 Q. About what time?

A. About July, 1881.

12 Q. Go on, now.

A. Mr. Carter called upon me and asked me the price of a vault. I showed him plans and photographs, among which he selected the style of the Beekman vault, in Greenwood. I prepared plans for him and gave him estimates on it, and informed him that I had a patent on the roof construction, and I showed him a copy of my plans and specifications.

13 Q. You say you "informed" him. State what you said.

A. I showed him a copy of the plans and specifications issued by the Government, and informed him that I had the sole right to build that structure.

14 Q. Are those plans which you showed him the plans which follow the letters patent and are connected with them in your Exhibit No. 1? Did you show him this paper, Exhibit No. 1?

A. I showed him duplicate printed copies furnished by
29 the Government of the plans attached to my letters patent. I rather think I showed him that, too (referring to the original letters patent).

15 Q. Well, what was said and done then between you?

A. After I prepared plans for him, and at a later day he came in to see me and asked if I could build it for a certain price.

By Mr. RANSOM:

16 Q. You are giving us your conclusion. State what you said and what he said, as near as you can remember.

A. Well, he called and asked to see the plans, and I showed them to him and gave him my estimate.

By Mr. BUNNELL:

17 Q. What did he say?

A. He said he would decide in a few days. He asked me my lowest price for building it, and I told him $7,500, and he said he

would decide in a few days. Then I called on Mr. Carter at his office, and he informed me——

18 Q. Tell us what he said.

A. He said that he had ordered the work of Mark & St. John at a less price. I asked him if it was the same roof—construction—and he said it was, and that Mark & St. John informed him that my patent was not valid, and that they could build it also. I warned him——

19 Q. Now, if that was in writing, where is the paper?

A. I warned him then, at the time.

By Mr. RANSOM:

20 Q. What did you say?

A. I told him that I would protect my interests, and that I hoped he would find some other method of building the roof.

30 (Plaintiff's counsel gives notice to defendants' counsel to produce the notice served on the defendant St. John on August 3, 1881, signed by the plaintiff.)

By Mr. BUNNELL, resuming:

21 Q. Did you ever have any other conversation with Mr. Carter on this subject?

A. Yes, sir.

22 Q. When and what was it?

A. A repetition of the same thing; nothing new.

23 Q. Will you state what you know respecting the construction of a vault at Orange?

A. (Referring to memorandum book.) I visited Orange on March 2d, 1882. In the new portion of the Rosedale cemetery I saw a vault partially constructed in O. S. Carter's lot. James Scott was the boss setter. I saw the plans of the vault, and the roof stones that were being carted to it accorded entirely with my patented roof.

Mr. RANSOM: I move to strike that last out on the ground that it is incompetent, the witness not having been shown to be an expert and capable of discriminating between the letters patent and the plans therein mentioned and the vault as being constructed.

24 Q. I will ask you, Mr. French, then, whether you have any knowledge of the method or plan of construction based upon which your patent was issued.

(Objected to by defendants' counsel on the ground that it is an improper way of showing Mr. French to be an expert and capable of testifying in regard to this alleged patented invention.)

A. I have.

25 Q. Are you familiar with the mechanical principle upon which such work is done?

(Same objection.)

31 A. Yes, sir.

26 Q. How long have you been engaged in the business of manufacturing vaults for cemeteries?

A. Eight years.

27 Q. What attention have you given during that time to different structures and manufacturing different vaults of various kinds?

(Objected to by defendants' counsel as immaterial.)

A. The greater portion of my time.

28 Q. Will you state now what the structures of those stones were which were being drawn to that vault, how they were constructed?

A. I saw two gable stones with tenons cut solid on them, and I saw at the depot the roof stones mortised underneath to receive the tenons on the gable stones. The gable stones were each in a continuous piece and the roof stones were each in a continuous piece, so that the four stores and the capstone would combine to make the roof as shown in my patent. These correspond with the plans for doing the work that I saw at the vault.

29 Q. Did they correspond with the plans which you had previously submitted to Mr. Carter?

(Objected to by defendants' counsel on the ground of the witness' incompetency, he not having been shown to be an expert.)

A. They did.

30 Q. Who was this boss setter you have testified to?

A. James Scott, of Greenpoint, Long Island, the man that put together the stones of the first vault that I built under this invention.

31 Q. Which vault was that?

A. The J. W. Beekman vault, in Greenwood cemetery.

32 Q. Now, from your knowledge of mechanics and the structure of vaults, are you able to state that that vault which

32 was in process of construction, which you saw there, corresponded, so far as the roof was concerned, with the specifications annexed to and upon which letters patent were issued to you?

(Objected to by defendants' counsel on the ground that the witness has not been shown to be an expert, and that therefore the testimony is incompetent.)

A. Yes, sir.

33 Q. How many vaults like this or like the specifications contained in your letters patent have you built?

(Objected to as calling on the witness to make a comparison between the specifications and some vault he has built, and then testify that they are similar or the same.)

A. Do you mean up to the present time?

34 Q. Yes; up to the present time.

A. Nine finished and one for Jay Gould.

Cross-examination by Mr. RANSOM:

35 X Q. How old are you, Mr. French?

A. Thirty-two years old.

36 X Q. How long hav eyou lived or done business in New York city?

A. I have been in business since 1869.

37 X Q. Since that time have you been engaged in the business of constructing cemetery vaults?

A. For the last eight years.

38 X Q. During the last eight years you have been in business for yourself, have you?

A. Six of it; two years of the time I was member of a firm, and the remaining six years in business for myself. I had my brother for my partner for some of that time.

39 X Q. What do you call your business—what name do you give to it?

A. That has always puzzled me.

33 40 X Q. You advertise something or other on you cards, bill-heads, or letter-heads, don't you?

A. It is not a stone-cutter or an architect.

41 X Q. I don't ask what you are not; I ask what you are.

A. It has always puzzled me. Properly speaking, I am a contractor.

42 X Q. How do you designate your business on your business cards, letter-heads, bill-heads, or business stationery?

A. I say "H. Q. French, monuments, vaults, &c., of granite."

43 X Q. That is a fair designation of the business that you have been engaged in for the last eight years, is it not?

A. Yes, sir.

44 X Q. Before going into the vault business what was your business?

A. I was in the marble business.

45 X Q. Did you ever learn the trade of stone-cutting?

A. No, sir.

46 X Q. Did you ever learn any mechanical trade.

A. No, sir.

47 X Q. Have you ever received any special mechanical education?

A. Only by experience.

48 X Q. You mean by that that the only education you have in mechanics is what you have picked up in your business ordinarily?

A. Yes, sir.

49 X Q. You never attended any school of technology or architecture or engineering, did you?

A. No, sir.

50 X Q. In the construction of vaults in your business you do not pretend to make the diagrams or the measurements yourself, but you employ somebody who is skilled in that business to do it for you, do you not?

34 A. I employ a draftsman to draw them just where and how I direct. I give them the sizes, I give them the shape, and the ideas are exclusively mine. The treatment of mouldings I leave to them.

51 X Q. The plans for a vault that you might be employed to construct you submit to your expert draftsmen—your general ideas of how you would want it done—and then have him do it; is that what you mean?

A. Yes, sir; I would give him my ideas of what was to be done.

52 X Q. And then have him make the plans?

A. He would draw the designs as I would direct.

53 X Q. Well, when you say "as you direct" you don't mean that you stand over him and tell him to make a mark here and there, but you give him the general idea of what you want done and he takes the drafting materials and makes the plans and exact measurements and all that?

A. I generally make the important lines myself.

54 X Q. Do you make what builders and contractors call an "elevation" of the proposed work?

A. So far as the construction goes, I make that myself.

55 X Q. Do you know what I mean by the "elevation" of a work?

A. Yes, sir.

56 X Q. I don't know whether you do or not; tell me.

A. I say as far as the construction goes, I make that myself.

57 X Q. If you were to construct a vault for Mr. Carter, for instance, you would prepare for Mr. Carter's inspection or have prepared an elevation or picture or drawing of that vault as it would look when finished, wouldn't you?

A. That is a perspective.

58 X Q. That is an elevation, too, is it not?

A. No, sir; pardon me.

59 X Q. That is a perspective then?

A. Yes, sir; the picture is.

35 60 X Q. You have that done, don't you?

A. Yes, sir.

61 X Q. You don't do that yourself?

A. Not the perspective; no, sir.

62 X Q. Then would you submit to Mr. Carter, for instance, on paper a diagram of the vault as an entirety, giving the measurements of it?

A. Well, I don't understand your question.

Question 62 repeated.

A. Yes, sir.

63 X Q. Would you make that diagram yourself or have it made by your draughtsman?

A. I would make the construction lines myself. The mouldings and shadings would be made by my draughtsman.

64 X Q. Then you would make the outlines of the picture of the vault or of the diagram and he would fill it in and make it complete?

A. Yes, sir.

65 X Q. Now, do these plans made in this way amount to working plans from which the vault itself could be built?

A. Yes, sir; from which it could be built. I don't say we do.

66 X Q. I say from which it could be built.

A. Yes, sir.

67 X Q. Now, when you construct a vault do you employ a superintendent who is a mechanic—a stone-cutter—to superintend the setting of the stones and the actual physical construction of the vault?

A. No one particular man.

68 X Q. I did not ask you that. I asked you if you employed a man or a superintendent. I did not ask about any particular man.

A. That is all I can answer; no one particular man; several men.

69 X Q. I said superintendent.

A. That I do myself.

70 X Q. Do you superintend the cutting of the stone?

A. In a measure.

36 71 X Q. A very large measure or a very economical measure; what do you mean?

A. Well, as much as I deem sufficient to insure the correctness of my plan.

72 X Q. Well, stones prepared for a vault are cut at some distance from the place where the vault is to be erected, are they not?

A. Yes, sir.

73 X Q. Do you go to that place and superintend the cutting of the stone?

A. Periodically I inspect the stone.

74 X Q. Do you mean to say that you inspect each stone for a vault to see if it is right?

A. Generally.

75 X Q. And you do not depend on anybody else in your employ to superintend that part of the business?

A. Not exclusively.

76 X Q. Do you generally?

A. No, sir.

77 X Q. Now, is it not a fact, Mr. French, that you have in your employ skilled stone-cutters and mechanics whose business it is to take your working plans prepared by you and your draughtsman and from those plans cut and prepare the stone which will, when put together, make the vault which you and your superintendent or draughtsman have designed; is not that so?

A. Under my general supervision.

78 X Q. You have said that forty times in one form and another.

A. That is what I say.

79 X Q. You do that, do you?

A. Certainly.

80 X Q. Where do you get your material or stone for the vaults which you contract to put up?

A. Westerly, Rhode Island.

81 X Q. Do you own a quarry there?

A. No, sir.

82 X Q. Do you own any quarry?

A. No, sir.

37 83 X Q. Did you ever own one?

A. No, sir; and I never intend to.

84 X Q. Then you buy your stone of the quarry owner?

A. Yes, sir.

85 X Q. Now, then, is it not true that the quarry owner cuts those stones himself, by his own men, for you according to your direction?

A. Yes, sir.

86 X Q. Then you have not in your employment any stone-cutter at all?

A. No, sir.

87 X Q. You could tell, I take it, from your knowledge of this business by an examination of the stone as cut and the plan which had been made for the vault, whether the stone had been properly cut or not?

A. Yes, sir.

88 X Q. That you could tell yourself?

A. Yes, sir.

89 X Q. Did you ever make any mistakes in your judgment in that regard?

A. I don't recollect them.

90 X Q. Have you any men in your employment steadily in this business by the day or by the month or by the year?

A. Yes, sir.

91 X Q. In what capacity are they employed?

A. They are draughtsmen, setters, sometimes stone-cutters, masons, and laborers.

92 X Q. Now, are these persons that work for you in erecting a vault under your personal direction and supervision in their work or are they under the direction and supervision of some superintendent employed by you?

A. No, sir; under my own.

93 X Q. You said something about a boss setter by the name of Scott. Have you any such person in your employ?

A. Not at present.

38 94 X Q. Who acts as the boss setter for you in your work?

A. Several men—different men.

95 X Q. You are obliged to employ men of that capacity and character in business in your work, are you not?

A. Not always. I have setters, but sometimes two or three of equal position on the same work.

96 X Q. Well, the work could not be done without those men, could it?

A. No, sir.

97 X Q. You said something in your direct examination about seeing some stones at the depot intended for Carter's vault. How do you know that those stones at the depot were intended for Carter's vault?

A. Mr. Scott, the setter, told me they were at the depot. I visited the cemetery first.

98 X Q. All you know about it is what Mr. Scott, the setter, told you, namely, that the stones at the depot were for the vault?

A. Not hauled up yet, some of them.

99 X Q. And then you went over to the depot and inspected those stones that you saw there?

A. Yes, sir.

100 X Q. And those are the stones which you testified were for Carter's vault?

A. Two of them were.

(Defendants' counsel moves to strike out all the testimony of the witness in regard to the stones at the depot, on the ground that what he knows about it is simply hearsay.)

By Mr. BUNNELL:

101 X Q. How were they addressed?

A. I would not say they were marked at all. I would not say they were not or that they were. Those stones do not wander around the country.

39 By Mr. RANSOM, resuming:

102 X Q. How long have you been constructing vaults with the roof similar to the one described in your letters patent?

A. For three years.

103 X Q. And in that time how many vaults with such roofs or similar roofs have you constructed?

A. Nine.

104 X Q. Will you name them in the order in which you have constructed them?

A. I cannot do it without referring to my books.

105 X Q. Give me the names of as many as you can remember without looking at your books.

A. There was the J. W. Beekman vault, in Greenwood; Robert L. Stewart, Alexander Frazier estate, Almon Buckley estate, also in Greenwood; the A. H. Baldwin vault, Hurlbut and Scott, in Woodlawn; Ransone, in Macon, Georgia; William C. Ely vault, Clyde, New York; the Bush vault, Wilmington, Delaware. I think that is all.

106 X Q. Where did you get the plans for the construction of the Beekman vault?

A. Part of the plans from Mr. Beekman and I made part of them myself.

107 X Q. Where did you get the plans for the roof of the Beekman vault?

A. Part of it from Mr. Beekman and made part of it myself.

108 X Q. Was that vault built prior to your letters patent or subsequent?

A. Prior.

109 X Q. And was that roof put on in the same way substantially

or materially that is provided for the roofs of vaults in the specifications annexed to your letters patent?

A. Yes, sir.

110 X Q. When was that vault commenced—the construction of it?

A. I cannot tell you now.

111 X Q. Can you tell by looking at your books?

40 A. I could not say whether I can say when it was commenced. I can tell you when it was finished.

112 X Q. Then you can tell when it was commenced about, can't you?

A. About.

113 X Q. Can you tell now, or would you have to examine your books?

A. Well, it was finished August 10th, 1879.

114 X Q. It was commenced how many months before that?

A. Several months.

115 X Q. Three months? I want to know the number as near as you can remember.

A. Yes, sir; probably three or four months.

116 X Q. So far as the plans of the roof of the Beekman vault are similar to the construction as described in the letters patent, do you swear that it was your original invention?

A. So far as the locking of the stones together as embodied in my patent it was my invention.

117 X Q. Had you prior to that time ever seen or heard of that peculiar mode of constructing the roof of a vault?

A. No, sir.

118 X Q. Had you at that time ever been informed by anybody that that way of constructing a vault had been patented in any of the foreign countries?

A. No, sir.

119 X Q. Was this vault of Carter's, if you know, constructed the same as the Beekman vault, in Greenwood?

A. The plans of the Carter vault showed the same construction as that of the Beekman.

120 X Q. You have never seen the Carter vault since it was completed?

A. No, sir.

121 X Q. The plans of the Carter vault that you now refer to, those that were shown to you by Mr. Scott, are they the same?

A. Yes, sir.

41 122 X Q. And all you know as to whether those were the plans of the vault which Mr. Carter actually built is what Scott told you, is it not?

A. Yes, sir.

Mr. RANSOM: I now move to strike out all the witness' testimony in respect to the plans of the Carter vault that he saw at Orange, on the ground that he has testified from hearsay.

123 X Q. Now, in that connection I want to ask you how you

know that the vault of the material for a vault in Orange which you have described you saw was on Mr. Carter's lot.

A. Well, I don't know.

124 X Q. Then, as a matter of personal knowledge, you don't know whether Carter ever built a vault or not similar to the vault described in your letters patent, do you?

A. "Personal knowledge"—you mean from seeing?

125 X Q. Certainly.

A. No, sir.

126 X Q. Did you ever visit any of the forts about New York—United States fortifications?

A. No, sir.

127 X Q. Did you know as a fact that the mortise and tenon principle of your patent is in use in these fortifications and forts?

A. No, sir.

128 X Q. You don't know anything about it, do you?

A. No, sir.

129 X Q. When did you make the contract with Gould for his vault in the Woodlawn cemetery?

(Objected to as immaterial.)

A. January, 1883.

130 X Q. That contract is with you and Gould personally, is it not?

A. Yes, sir.

42 131 X Q. When is that vault to be completed? I don't ask you for the contents of your contract, but I want to know when you expect to get the vault done.

A. October next.

132 X Q. Be built in accordance with the principles set forth in your letters patent?

A. Yes, sir.

133 X Q. You have been familiar during the eight years you have been in this business with the way of putting stones together; built up masonry of all sorts, haven't you?

A. Yes, sir.

134 X Q. Now, do you testify, Mr. French, that the principle of mortise and tenon of putting stones together is a new and recent discovery?

A. No, sir.

135 X Q. As a matter of fact, it is an old principle, is it not?

A. Yes, sir.

136 X Q. And it has been in use many years?

A. Yes, sir.

137 X Q. Your claim is that you are entitled to a monopoly of that principle?

A. As combined.

138 X Q. For the roof of a cemetery vault?

A. Locking the five stones together; that is all. My patent is not on the tenon or the mortise or anything of that kind.

139 X Q. Now, the way of locking stones together, namely, by mortise and tenon, that is a very old principle?

A. Certainly.

140 X Q. You don't claim any patent on that?

A. No, sir.

141 X Q. What you claim is, briefly, that the old principle of mortise and tenon has been put to a new use by you—that is, in locking together the stones of a roof of a cemetery vault—and that is your patent?

43 A. The combining of the whole roof together, which never has been done before.

142 X Q. Now, combining the whole roof together, which never has been done before, you say, is really done by using an old principle in the matching together of stones?

A. Yes, sir; certainly.

143 X Q. I am requested to ask you if a pin through the roof would not answer as well as a mortise and tenon, and if it has not been used in that way?

A. I don't know that it has, but my patent covers that also.

Mr. RANSOM: I move to strike out what your patent covers; that is for the court to say.

144 X Q. Wouldn't a pin do as well as the mortise and tenon?

A. No, sir; but it will largely answer the purpose.

145 X Q. Now, if the pin is as strong as the stone would it not do just as well?

A. The contraction and expansion of the pin makes it a dangerous element in the construction.

146 X Q. You mean by that to say, then, it would not do as well?

A. No, sir.

147 X Q. And the reason you have already given, namely, the expansion and contraction of the pin?

A. Yes, sir.

148 X Q. The contraction of an iron pin wouldn't be very much, would it?

A. I have seen a great number of stones broken with it.

149 X Q. But you claim the use of a pin is covered also by your patent, do you?

A. Yes, sir; emphatically.

150 X Q. Now, in the Beekman vault, did Mr. Beekman suggest to you this peculiar plan of locking the stones together for the roof?

44 A. No, sir.

151 X Q. What part of this plan for the roof did Mr. Beekman suggest to you?

A. Merely the three stones running the full length of the vault; the three upper stones running the full length of the vault.

152 X Q. You said there was a mortise and tenon on the Beekman plan, didn't you?

A. Yes, sir.

153 X Q. When was it that you showed Mr. Carter the copies of

the plan of a vault to be constructed in accordance with your letters patent?

A. Well, it was just prior to August 3d, 1881, when I served the notice; that is all the data I have to go by.

154 X Q. Do you remember where it was?

A. At 199 Broadway.

155 X Q. At your office?

A. Yes, sir.

156 X Q. Who was present at that conversation which you had with Mr. Carter?

A. I think no one. Some part of it might have been in the presence of my draughtsman.

157 X Q. You have draughtsmen there all the while, haven't you?

A. Yes, sir; but they are in a separate room.

158 X Q. Have you stated in your direct examination all that was said by Mr. Carter to you and you to him at all of these conversations?

A. No, sir.

159 X Q. You have not?

A. All that I think is important.

160 X Q. You have stated the substance of all that was said, haven't you?

A. Yes, sir; I have stated the substance of all that was said.

161 X Q. You have, then, stated the substance of all that was said in these various interviews?

A. I think I have.

162 X Q. At the time you showed him the plans of the vault which you proposed to construct for him did you tell him that the mode of putting on the roof was patented by you?

A. Yes, sir.

163 X Q. And you showed him your letters patent?

A. I think I showed him the letters patent. I am pretty sure of it. I am quite sure I showed him the official patent.

164 X Q. You are sure, as I understand, that you showed him the diagram or plans which were annexed to the patent—printed copies of them?

A. I gave him the Government specification, that is all.

165 X Q. You mean the plan which you showed him was this diagram which was annexed to the letters patent?

A. That is a copy. I gave him the specification.

166 X Q. Did you give him this diagram (counsel exhibiting paper)?

A. Yes, sir; one of those.

167 X Q. I wish, Mr. French, that you would look so that you can testify accurately, if possible, the date when you commenced the construction of the Beekman vault, and then at some future meeting let us know.

A. I will endeavor to do so; yes, sir.

168 X Q. How long before the Beekman vault was finished, which

you say was the 10th of August, 1879, was it that the roof to the vault was put on?

A. I think within the previous three or four weeks.

46 JAMES SCOTT, a witness called on behalf of the plaintiff, being duly sworn, testified as follows:

Direct examination by Mr. FLETCHER:

1 Q. What is your name, age, residence, and occupation?

A. James Scott; age, 42; reside at 49 Dupont street, Brooklyn; occupation, stone-setter.

2 Q. How long have you been in the business of stone-setting?

A. About 25 years.

3 Q. Are you familiar with stone matching, setting, and joining in all its departments?

A. Well, that has been my business for that time, and I can always get enough to do and give satisfaction, and I suppose that causes familiarity.

4 Q. During that length of time how large a part of the time have you been in charge of work of that nature?

A. About ten years.

5 Q. Please look at this exhibit, Defendants' Exhibit No. 1, specification and drawing of plaintiff's patent, and state whether you have seen it before and understand it.

A. I have seen it before.

6 Q. Have you seen vaults constructed after the plan as shown in the drawing and described in the specification?

A. No.

7 Q. Did you have any part in the construction of the Beekman vault in Greenwood?

A. I put the roof onto it—that is, these large stones (witness indicating).

8 Q. Have you ever had any part in the construction of any other roof upon any other vaults except the Beekman vault in which the roofing was the same as that mentioned and described in the patent before you?

(Objected to upon the ground that it is improper. The
47 witness is asked to give his opinion as to whether some vault that he may have seen is the same as that described in the patent.)

A. No, sir.

Question repeated.

A. The vault that I was in charge of for Mark and St. John in Rosendale cemetery was linked together in the same manner in the roof.

9 Q. Did the roof differ in any respect from that shown in section at figure 1 of plaintiff's patent?

A. I cannot say that it did; it looks the same; it looks the same. Anyway, they connected together and the roof stone laps the same way—appears the same, so far as I can judge.

10 Q. Of how many pieces did the vault referred to by you which was erected for Mark and St. John consist of?

A. You mean the roof?

11 Q. The roof of the vault.

A. Three large pieces on the top and one piece on each end, and between the end pieces it was filled in with the same style, of course.

12 Q. In what respect did the roof piece at the top differ from that shown in this drawing, figure 1?

A. I don't know that I could tell you of any material difference. The lap-over is on the same principle, I should judge.

13 Q. As to the combination between the capstone C and the roof stones B B, what difference was there between the vaults constructed by Mark and St. John and the drawing before you?

A. They both lap over about on the same principle. If there is any difference—I couldn't say there was any difference.

14 Q. What difference was there in the combination in the roof referred to as constructed for Mark and St. John and the combination between the gable stones A and the roof stones B, shown in the patent?

48 A. If there is any difference it is in the dowel. This dowel in this patent here looks to be a little larger, but it acts on the same principle. It looks here as if it was a larger dowel.

15 Q. Then, as I understand you, the only difference would be as to the size of the dowel?

A. As to the size of the dowel. There were no figures as to the size, and I don't measure the size of the dowel or the size of the stone. All I contracted for was putting it together.

16 Q. Referring to the entire roof when completed as a combination, what difference was there between the roof as constructed for Mark and St. John, as you have referred to, and that shown in figure 1 of plaintiff's patent?

A. If there is a difference at all it is so slight that I do not see it. The nature of the roof seems to be the same.

17 Q. Please look at the paper shown you and state whether or not you have ever seen it before (counsel handing witness a paper).

A. It seems to be the contract made between Mark and St. John and myself.

18 Q. For what?

A. For the setting of this other vault that I set, the Carter vault.

19 Q. The vault you referred to in your last testimony in comparison with the plaintiff's vault?

A. Yes, sir; in Rosedale cemetery, in Orange.

20 Q. And it is the same one referred to by you as having been made by Mark and St. John?

A. Yes, sir.

21 Q. And the only one?

A. Yes, sir.

22 Q. Did you sign that contract?

A. Yes, sir.

23 Q. Who signed the name of Mark and St. John?

A. Mr. St. John.

24 Q. This gentleman sitting here (pointing)?
A. Yes, sir.
49 25 Q. You saw him sign it, did you?
A. I saw him sign it.

(The contract referred to is offered in evidence and marked Plaintiff's Exhibit No. 2 of this date.)

Cross-examination by Mr. RANSOM:

26 X Q. You did not make any of the measurements of the stones which were put into the Carter vault yourself, did you?
A. No, sir.
27 X Q. The stones were delivered to you for the vault already cut?
A. Yes, sir.
28 X Q. And your work was simply to put them together?
A. Yes, sir.
29 X Q. And that has been the kind of work that you have been engaged in all of your life as a stone-setter, is it not?
A. In the city of New York.
30 X Q. You are not the architect or draftsman or planner of vaults, are you, of mason-work?
A. Not of vaults.
31 X Q. You never planned or drafted the plans for a vault similar to the ones mentioned in the patent of the plaintiff, did you?
A. No, sir.
32 X Q. Or similar to the Beekman vault, in Greenwood cemetery?
A. No, sir.
33 X Q. Have you ever put together the stones for a vault similar to the Carter vault before you did that one?
A. I did; the Beekman vault.
34 X Q. Those are the only two?
A. The only two.
35 X Q. When was the Beekman vault put together by you?
50 A. Between the 12th and 20th July, 1879.
36 X Q. Did you know Mr. Beekman?
A. No, sir.
37 X Q. Who employed you to do the work?
A. The Smith Granite Company.
38 X Q. Who furnished the plans for you for the work on that vault?
A. The Smith Granite Company had a man in charge there, and he was authorized to employ me to raise these stones on the vault.
39 X Q. Then really all you had to do was to raise the stones to their position and cement them together?
A. Certainly.
40 X Q. Have you any accurate recollection of how that was put together, with reference to this roof? You can say yes or no whether you have any accurate recollection or not.
A. It seems to me it is connected in the same way.

41 X Q. Now, do you remember clearly and distinctly about it, so that you are positive in regard to it?

A. Well, I should think I do.

42 X Q. How long were you at work on that vault?

A. Well, from the 12th to the 20th would be about eight days.

43 X Q. And it took you about eight days?

A. Eight or nine days.

44 X Q. It took you eight days to put it up?

A. No, sir; to get the roof on—that is, there were five pieces. There is one thing that I would like to state, that one was in the bank, which was partly under ground, and the other was over ground—that is, the Carter vault was over ground.

45 X Q. The Beekman vault is partly under ground?

A. The Beekman vault lays into the bank.

46 X Q. Did that make any difference with the construction of the roof?

51 A. All the difference it makes is that it don't require to be moulded—going into the bank—and in the back the connections seem to be the same.

47 X Q. You are a stone-setter by trade?

A. Yes, sir.

48 X Q. Where did you learn your trade?

A. In Scotland.

49 X Q. Where are you employed now?

A. In Wall street.

50 X Q. As a mason?

A. No; I am taking down granite.

51 X Q. You are taking down granite?

A. Yes, sir.

52 X Q. Are you working by contract or by the day?

A. By contract.

53 X Q. Do you remember clearly the construction of the roof of the Carter vault; how it was put together?

A. Well, I remember it in this way, that it is linked together with the dowels, which I will say the same as the Beekman vault.

54 X Q. That you have already said. I don't care about cross-examining you on that just now. I want to know if you remember clearly the way the vault was put on; if you remember clearly the way the roof of the vault was put on.

A. Yes, sir.

55 X Q. I want to call your attention now to the drawing on the plaintiff's patent which is named there on figure 1, which presents the front view of the vault, does it not, with the roof on?

A. Yes, sir.

56 X Q. Now, I wish to inquire whether there is any difference between the drawing as shown in the figure and the roof of the Carter vault, especially directing your attention to this mortise or dowel which is marked "*b*."

A. The only difference, as I said before, is that this appears to me to be a longer dowel.

52 57 X Q. Is it not a fact that the Carter vault does not contain that mortise or dowel, but that the stone is a straight surface laid flat on the vault?

A. They are both straight surfaces, but that is cut through the dowel, showing how the dowel goes up into the roof stones.

58 X Q. Now answer me. In the Carter vault was there a cut in the roof stones, made as shown on this figure No. 1, at this point where I am now pointing (counsel pointing to "*b*")?

A. The Carter vault had a dowel running up into the stone, acting on the same principle as this.

59 X Q. You are quite clear in some of your answers; in others you are not. You constantly say it is the same principle. I do not ask your opinion as to the principle. I simply want the fact in respect to these two stones. I want to know whether this roof stone which is shown in this figure 1 on the plaintiff's patent, and which is marked "*b*," on which I have my lead pencil, whether the Carter roof stone which you put on contained the same mortise in it that this contained.

A. I don't know what you want to get at.

60 X Q. I now call your attention to the figure 1 in the plaintiff's patent, to their representation of the front end of the roof stone, as shown by "B," on the left of that figure, and ask you whether or not the Carter vault roof stone, as put on by you, contained the mortise which is shown in this same figure on the opposite side of the figure at "*b*."

A. The mortise was——

61 X Q. (Interrupting.) Can't you say yes or no; did it contain a mortise?

A. It contained a mortise.

62 X Q. Now, are you entirely clear and positive that the mortise which is shown in this figure 1, already spoken of in the preceding last question, was in that roof stone?

A. Yes, sir; there was a mortise in those stones.

53 63 X Q. And the roof stone of the Carter vault was put on so as to fit the mortise over a tenon on the pediment or gable stone?

A. Yes, sir.

64 X Q. Now, was this tenon which you have just described in your last answer in the Carter vault on the pediment or gable stone, or was it on the roof stone?

A. It was on the gable stone.

65 X Q. Then you swear that the gable stone was cut so as to show a tenon, as appears on the drawing of the plaintiff's patent, instead of a tenon on the roof stone and a mortise on the gable stone?

A. Yes, sir.

66 X Q. Now, Mr. Scott, I ask your attention now to figure 2 in the drawings of the plaintiff's patent, and also to the model produced by the plaintiff of a vault, and inquire whether in the Carter vault the roof stones were cut with the little jog or shoulder, as appears in the drawings and in the model now before you.

A. No.

67 X Q. I now call your attention to the capstone of the model which the plaintiff produces and ask you if there is any difference between that stone, as represented by that section of the model, and the Carter capstone which you put on the Carter vault.

A. Yes, sir; there is a difference.

68 X Q. And will you point out the difference?

A. Well, in common language, it has not got these "lugs" in it.

69 X Q. The capstone had not these on (pointing)?

A. No, sir; not to meet the notches I have just described.

70 X Q. Then the capstone on the Carter vault was a straight stone on its edges?

A. Yes, sir; on its bed, too.

71 X Q. I understand you to say that there is another dif-
54 ference—a difference in the capstones—that the Carter vault capstone was on the under side, which was flat or straight?

A. Inside the vault.

72 X Q. And in the model as shown you the capstone is roof-shaped or grooved on the inside of the vault?

A. Yes, sir.

73 X Q. Now, Mr. Scott, is there not another difference between the model of the plaintiff's patented vault and the Carter vault in respect of the capstones, which is that in the model the cap-stone when placed in position extends on each side of it over onto the other roof stones and binds them?

A. They both extend over; in both vaults. The difference is in the lugs or notches; they both lap over five inches or thereabouts.

74 X Q. Some technical names have been used here, Mr. Scott, that I would like to have you explain the meaning of. What is a "tenon?"

A. It is a notch for holding on the stone to keep from sliding away—that is, a tenon on the vault.

75 X Q. It is a "notch," you say? You mean that it is a hole dug in the stone?

A. It is a projection raised on the gable stone.

76 X Q. Now, what is a "lug?"

A. Well, that is a term. I suppose it is more in the looks of a thing than anything else. I don't think it is a technical term.

77 X Q. You don't know any definition to the word "lug?"

A. I could not define it.

78 X Q. What is a mortise?

A. It is a hole made to receive the tenon.

79 X Q. The employment of tenons and mortises in fastening vaults together is something you have known of for many years, is it not?

A. I never saw them used before the Beekman vault; not on vaults.

80 X Q. Never did?

A. No, sir; I have seen dowels—iron dowels.

55 81 X Q. What is the meaning of the word "dowel?" What do you mean by that?

A. Well, we mean a piece of something, either wood or stone,

sometimes brass, and drill a hole into the stone, according to the depth that we want. If we put a four-inch dowel we put two inches in one stone and two inches in the other, and sometimes run in with lead and sometimes with cement for preventing the piece about from dropping away.

82 X Q. Then the dowel which you would put in of brass or iron serves the same purpose precisely that the tenon and mortise does as appears in this stone, does it not, to hold the stones?

A. It would hold, I suppose, but not so good.

83 X Q. That may be; I did not ask you that. It is intended for the same purpose, is it not?

A. Yes, sir.

84 X Q. It is intended for that very purpose, is it not, to hold the stones?

A. Yes, sir.

85 X Q. Now, the object of the tenon and mortise, as shown in the plaintiff's model of the roof stones of this vault, is to hold these roof stones in place, is it not?

A. Yes, sir.

86 X Q. To keep them from slipping?

A. Yes, sir.

87 X Q. Now, the dowel you speak of, which may be made of iron or brass in the shape of a bolt, is used for the same purpose, is it not, if used at all?

A. It is used to hold the stones.

88 X Q. It is used for the same purpose—to keep these stones from slipping?

A. Yes, sir.

89 X Q. Did you ever see dowels in a vault in your life?

A. In any kind of a vault, you mean?

90 X Q. I am asking you about a cemetery vault. Did you ever see dowels used in a cemetery vault in your life?

A. Yes, sir.

56 91 X Q. They are very common things, aren't they?

A. They use cramps; yes.

92 X Q. You have seen dowels used in cemetery vaults, and they are very common?

A. Not very common.

93 X Q. And when you undertake to fasten the roof stones of a vault to keep them from slipping and sliding, there is some way of doing it, I suppose?

A. Yes, sir.

94 X Q. And the way it has always been done, in your experience before you saw these vaults, is by dowels?

A. Yes, sir.

95 X Q. And this tenon and mortise, as described here, is for accomplishing the same purpose that the dowel is used for, namely, to keep the stones from slipping?

A. Yes, sir.

96 X Q. Is it not a common thing to cover the roof of a struct-

ure entirely with stone and in sections, making the roof apparently one whole stone, although really constructed of several stones?

A. It is common to construct roofs in that way.

97 X Q. With a roof constructed as described in the last question and answer, the stones are kept in place by dowels, are they not?

A. Some of them—some of the stones are.

98 X Q. Some of them?

A. Yes, sir.

99 X Q. Those that are liable to shift in place are confined by dowels?

A. Yes, sir; if the dowels can be used; if it cannot be used they are cramped.

100 X Q. Now, tell me what you mean by cramping them.

A. There is a piece of metal run down both ends and one hole in each stone and the points driven in tight.

57 101 X Q. Two blocks of stone brought close together in position as you desired them to be by a strap of iron bent from one stone to the other and the ends loaded or fastened into each stone—that holds those two blocks of stone in that position, does it not?

A. Yes, sir.

102 X Q. That is what you call a "cramp?"

A. Yes, sir.

103 X Q. The principle of fastening either wood or stone by a mortise and tenon is a principle which has existed ever since you have known anything about mechanics, has it not?

A. Yes, sir.

Redirect examination by Mr. FLETCHER:

105 Re-D. Q. In your experience and from examinations of cemetery vaults in use for some time, what is the natural result in the use of dowels and cramps made of metal, so far as the endurance of the structure is concerned?

A. Dowels of stone are preferable to metal any time, because the metal rusts and is liable to break away.

105 Re-D. Q. The same with cramps?

A. Yes, sir.

106 Re-D. Q. Is, in your judgment, a combination of metal and stone equally enduring to that of stone and stone?

A. No, sir.

By Mr. BUNNELL:

107 Re-D. Q. Does the atmosphere have any influence upon dowels and cramps made of metal? Are they subject to heat and cold? Are they affected by heat and cold?

A. The objection I have to metal is, of course, metal is put in tight and when the expansion comes it is apt to burst, and will do it in many cases.

58 108 Re-D. Q. Is that true with respect of stone dowels?
A. It depends on the method it is put in and where it is put in.

Recross-examination by Mr. RANSOM:

109 Re-X Q. Dowels of metal can be put in so as to overcome expansion and contraction, can they not?
A. Yes, sir; they could, to a certain extent.
110 Re-X Q. Now, dowels of stone must be put in properly; otherwise they would be open to the same objection?
A. Undoubtedly.
111 Re-X Q. I understand you to say in your redirect examination that you had found dowels of stone to be preferable. By that I suppose you mean to say that in your experience you have used dowels of stone?
A. Yes, sir.
112 Re-X Q. You found them to be preferable to dowels of metal?
A. Yes, sir.
113 Re-X Q. And the dowels of stone you have used have been the same in principle as the dowels of stone shown in the plaintiff's patent and in the model produced, have they not?
A. I don't think I understand the question.
Question repeated.
A. They may have been used to answer the same purpose.
114 Re-X Q. Well, that is the same principle?
A. Yes, sir.
115 Re-X Q. They are used for the same purpose and you understand that to mean the same principle?
A. Yes, sir.
116 Re-X Q. How many years, about, have you used dowels of stone in that way—that is, the way you have described in the last two or three answers?
59 A. I cannot give you a definite answer of how many years I have used dowels of stone.
117 Re-X Q. I understand that. That we have got. Now, will you testify that you have used dowels of stone in the way you have already described for as many as ten years?
A. Yes, sir.
118 Re-X Q. Would you be willing to say that you have used them for a longer period than ten years?
A. No, sir; I would not.
119 Re-X Q. But you will stand on ten years?
A. Yes, sir.

Redirect examination by Mr. FLETCHER:

120 Re-D. Q. Were the dowels which you have used as long as ten years ago applied from the exterior or from the interior of the structure?
A. From the interior.

121 Re-D. Q. Did they come through to the surface of the stone?
A. No, sir.

JAMES SCOTT.

Subscribed and sworn to before me this 13th day of July, 1883.
EDWARD J. KNAUER,
Special Examiner.

59½ *Rebuttal.*

60 U. S. Circuit Court.

HAMLINE Q. FRENCH
against
OLIVER S. CARTER *et al.*

1 Q. Please state your name, age, residence, and occupation.
A. My name is William S. White; my age, 28; my residence, Rockland, Maine; and my occupation, general manager of the Hurricane Island Granite Co.
2 Q. In the course and as a part of your business have you been accustomed to estimate and compute the cost of vault roofs and other structures made of stone?
A. I have.
3 Q. For how long a time and to what extent?
A. I have made such matters an especial study for eight years, and I have been accustomed to estimate and compute the cost of such articles for eight years. As nearly as I can approximate the number, I have estimated upon upwards of 1,000 of such articles.
4 Q. During that period have you had occasion to discover whether your estimates and computations were accurate?
A. I have.
5 Q. What has been the means of such discovery and what has been the result?
A. I have uniformly discovered that my estimates and computations in such matters were accurate by means of actual figures of cost of construction of the same articles upon which I had previously made such estimates.
6 Q. From your studies, knowledge, and experience in such
61 matters do you consider yourself as competent to make such estimates in such a manner as to be reliable?
A. I do.
7 Q. Have you examined and do you understand letters patent of the United States No. 244,224, granted to H. Q. French, the complainant, and sued on herein?
A. I have seen the letters patent referred to, also models of the same, and understand it fully so far as methods and cost of construction of the same are concerned.
8 Q. Have you examined and do you understand the device of the roof shown by the model Billaud vault?
A. I have examined the same and understand it so far as method and cost of construction are concerned.

9 Q. From your knowledge of the art, what material would you regard as best adapted for use in these roofs in the United States?

A. Granite.

10 Q. Please compute and estimate the cost of a granite roof ten feet long by five feet and six inches wide so made as to present artistic proportions and constructed according to the drawings and model in evidence of the Billaud vault, and state the amount.

A. Six hundred and seventy and $\frac{89}{100}$ dollars.

21 Q. Please compute and estimate the cost of a granite roof of the same quality and size constructed according to the specifications of the H. Q. French patent sued on, and state the amount.

A. Three hundred and fifteen and $\frac{65}{100}$ dollars.

12 Q. Please compute and estimate the cost of a granite roof nineteen feet and nine inches long and fifteen feet wide, constructed according to the drawing and model of the Billaud vault and so made as to present the same proportions as the Beekman vault, referred to by the testimony herein, and state the amount.

62 A. Forty-five hundred and ninety-three and $\frac{53}{100}$ dollars.

13 Q. Please compute and estimate the cost of a granite roof of the same quality and size as the Beekman vault, constructed according to the actual plan of said vault and according to the specifications of the H. Q. French patent sued on, and state the amount.

A. Twenty-four hundred and one and $\frac{24}{100}$ dollars.

14 Q. Please compute and estimate the cost of a granite roof thirty feet long and fifteen feet and six inches wide, constructed according to the drawings and model of the Billaud vault and so made as to present the same proportions as the vault known as the Peter Gilsey vault, and state the amount.

A. Sixteen thousand four hundred and sixty and $\frac{11}{100}$ dollars ($16,460.11).

15 Q. Please compute and estimate the cost of a granite roof of the same quality and size as the said Peter Gilsey vault, constructed according to the actual plan of said vault and according to the specifications of the H. Q. French patent sued on, and state the amount.

A. Twenty-seven hundred and fifty-seven and $\frac{77}{100}$ dollars.

16 Q. Please compute and estimate the cost of a granite roof thirty feet long and nineteen feet wide, constructed according to the drawings and model of the Billaud vault and so made as to present the same proportions as the vault known as the Jay Gould vault, and state the amount.

A. Twenty-four thousand seven hundred and twenty-six dollars.

17 Q. Please compute and estimate the cost of a granite roof of the same quality and size above given as those of the Jay Gould vault, constructed according to the actual plan of said vault and according to the specifications of the H. Q. French patent sued on, and state the amount.

63 A. Thirty-two hundred and twenty-nine and $\frac{67}{100}$ dollars.

18 Q. In making these estimates and computations have you

allowed any sum or sums for ornamentations and which you have included in your figures above given?

A. The figures I have given are for perfectly plain structures of the sizes and dimensions stated in the questions, and do not include any of the expenses of ornamentation; the finish I have estimated upon is for ordinary building work.

19 Q. Do your estimates include any expenses of removal or handling?

A. None whatever. I have estimated the cost at the quarry. If transportation were to be included that would heighten the contrast as against the Billaud device most materially. If the Billaud plan were to be applied to the two larger vaults upon which I have estimated, the expense of removal of the stones for the distances and under the circumstances ordinarily required would be almost beyond computation owing to their extraordinary size and shape.

Mr. RANSOM: I make the following objections to the direct interrogatories propounded to the witness, William S. White: I object to the ninth direct interrogatory on the ground that it is improper and incompetent, as the witness has not been shown to have any knowledge of the art whatever.

I object to the tenth direct interrogatory upon the ground that it is incompetent and improper, that the witness is not shown to be an expert, and that the evidence is irrelevant and immaterial.

And I make the same objection to the 11th, 12th, 13th, 14th, 15th, 16th, and 17th direct interrogatories.

64 Cross-examination by Mr. RANSOM of Mr. WILLIAM S. WHITE, a witness heretofore examined on behalf of the plaintiff:

1 X Q. Your examination in this case took place some months ago. Are you still engaged in the same business that you were then?

A. I am.

2 X Q. And at the same place?

A. At the same place.

3 X Q. Prior to your going into business had you graduated from any school of technology or any school of mechanical engineering?

A. I had not.

4 X Q. Had you any special instruction or education in either of those branches?

A. I had not.

5 X Q. Had you any special education or instruction or experience in the construction of structures similar to that described in your direct examination as the Beekman vault or Billaud vault?

A. I had not.

6 X Q. You went into the granite business when you were about 20 years old?

A. Yes, sir.

7 X Q. Did you go from school to that business?

A. I did.

8 X Q. What had been your educational advantages?

A. I had been educated at the high school at Rockland, Maine, and afterwards took a course of four months in a commercial college near Boston.

9 X Q. Will you describe in your own way the duties of your position in the granite business—when you entered and how you advanced and grew in the business?

A. My first engagement in the granite business was as a general clerk to the proprietor of the works, and in that connection I was called on often, in fact almost every day, to assist the superintendent, who was an expert in granite matters, to make computa-
65 tions of all kinds of granite work and whatever happened to come to our notice in matters of bidding and giving prices, and from that time I made the matter a part of my duties for several years, five years as a student. After that time, in the natural order of things, I became enough familiar with the manner of estimating and doing granite work to work from my own knowledge.

10 X Q. Well, then, it amounts to this, I suppose: that you were self-educated in the granite business from boyhood up to the present time?

A. That is it.

11 X Q. This business that you were then and are now engaged in is located where?

A. The business is carried on at Rockland, Maine, and the works are located at Hurricane Island, in part, and at Seal Harbor, Maine.

12 X Q. Where did you attend to your duties, at the quarry or at the city?

A. Both. All my time is divided between the quarry, the office at Rockland, and the country in general.

13 X Q. The country in general?

A. The country in general—New York, Philadelphia, and in the West.

14 X Q. Are your duties when away from Rockland or the quarry, about the country, that of a solicitor of orders?

A. Virtually. I am now carrying on business.

15 X Q. You are doing that for your employer, not for yourself?

A. I don't know as for myself; I presume it is for my employer, although the business is entirely under my control, and I have a special interest in it that makes it more of my business than merely that of a person hired.

16 X Q. I suppose that you mean that you have a contingent interest?

A. That is it.

17 X Q. So you regard yourself as working for your employer and for yourself?

66 A. Yes, sir.

18 X Q. Did you attend, when at the quarry, to the quarrying of the granite?

A. Only in the capacity of a general superintendent.

19 X Q. You are not what is known as a quarryman?

A. I am not a quarryman.

20 X Q. A quarryman is a man, as I understand, who goes down into the quarry with the men, and is a sort of boss over the men in blasting and elevating the granite?

A. Yes, sir.

21 X Q. You are general superintendent?

A. Yes, sir.

22 X Q. You have a draftsman, I suppose, in this business?

A. Yes, sir.

23 X Q. Is that any part of your duty?

A. No, sir.

24 X Q. You are not a draftsman, then?

A. I am not a draftsman.

25 X Q. All you know about the duties of a draftsman is what would naturally come to your knowledge in your position as superintendent?

A. That is all.

26 X Q. The actual practical working of it and the technicality of it you don't pretend to know anything about, do you?

A. Yes, sir. I pretend to know about the practical and actual workings of the drawings. I know whether drawings are correct or not. I, perhaps, could not make a drawing.

27 X Q. You would not regard yourself as competent to make drawings of a vault, for instance, such as has been described in your direct examination?

A. I would not, only from my inexperience in the use of tools.

67 28 X Q. You think after the drawing was made you could criticise it and say whether it was correct or otherwise?

A. Yes; as a critic upon a piece of art or work of any character; so also I could criticise a drawing in granite.

29 X Q. Am I right in understanding your direct examination to amount to this, that you have paid special attention to estimating the cost of granite structures of various kinds during your experience?

A. My direct testimony undoubtedly covers it in that manner.

30 X Q. Is that a fact?

A. That is a fact. They are, as I have before stated in my direct examination. I don't remember what questions there were in my direct examination on that point.

31 X Q. Now, let us see. Have you devoted more of your time in your experience in this business to the estimating of the cost of divers structures, or have you devoted more of your time to the general supervision of the entire work in the quarry and of obtaining contracts and orders for work?

A. In the matter of hours applied to each special duty I have no doubt many more of my hours have been applied to the general direction of business than to estimating the work.

32 X Q. Have you in your force at the quarry or at the office of the quarry business in Rockland, Maine, some person or persons specially employed for the purpose of making estimates of orders which you have obtained or that anybody else may have obtained?

A. I cannot answer that in that way. I can explain it to you in my own way if you will allow it.

33 X Q. Will you go on and explain it?

A. We have a foreman of stone-cutters who is a practical stone-cutter. We consider him competent to establish prices on work of an ordinary nature—the ordinary every-day work that comes to us, such as small building work, small monumental work, ceme-
68 tery work—but we do not have anybody about us whom we consider competent to estimate the value of work of great magnitude or of extreme sizes and weights of stone, such as the stones questioned about on my direct examination.

34 X Q. Now, when you say such stones as were referred to by you in your direct examination, do you mean stones used for the Beekman vault?

A. I mean the stones of both vaults.

35 X Q. You would regard, then, the Billaud vault as a structure so superior in its dimensions that it would be necessary to employ some person to make an estimate upon its cost who would have more knowledge than your foreman stone-cutter. Is that so?

A. Not on the Billaud vault in itself, but in regard to the Billaud vault built from the size spoken of in my direct examination. I don't remember just the sizes themselves.

36 X Q. I will read from your direct examination the sizes which were mentioned there: "Roof, 30 feet long, 15 feet and 6 inches wide."

A. I consider that an unusual sized roof, requiring stone of an unusual size to build it, as called for by the drawings that I testified from.

37 X Q. Will you tell me why your foreman stone-cutter would not be just as competent to estimate upon the cost of a stone of that size as one smaller?

A. For the reason of the cost of cutting the stone itself. The money expended upon it by the stone-cutters would not be a very great proportion of the cost of the roof. A very great proportion of the cost would be used in moving the stone about the yard and about the quarry, loading it onto a vessel and transporting it, and the risks and responsibilities of such a stone. The foreman of the stone-cutters, as a rule, has had very little experience in computing the cost of moving stone about the yard.

38 X Q. Part of the foreman's duties is to attend to the structures—not only of putting them up, but in moving them; is it?

69 A. No, sir.

39 X Q. Who attends to that?

A. That is a matter in very large stones that is looked after by the boss quarryman and the general superintendent. In this case it would be with me.

40 X Q. Or the boss quarryman?

A. The boss quarryman and the general superintendent.

41 X Q. Do you mean to say that it would be necessary that the boss quarryman and the superintendent should attend to that duty or that either could attend to that duty?

A. I should consider it necessary in a case of handling one of those stones for the boss quarryman to consult the superintendent about the manner of moving it about.

42 X Q. Consult him as to the cost of doing it?

A. Not at all.

43 X Q. Then the boss quarryman would be a competent man to judge and estimate as to the cost of constructing such a vault as the Billaud, of those of such dimensions as I have already given you?

A. Some would.

44 X Q. Yours, I mean.

A. He would not.

45 X Q. Except for the expense of moving the stone, as you have described, the foreman of the stone-cutters would be a competent man to judge of the cost of such a structure, would he not?

A. He would be a competent man on——

46 X Q. Can't you answer me by saying he would or would not?

A. I cannot.

47 X Q. Now, then, you may tell me why you cannot give me a direct answer as to whether he would or not?

A. Very much of the cost of the stone other than that of moving it about the quarry is used in the use of tools, steel, sharpening for stone-cutters, boxing the stone, and contingent expenses.

48 X Q. Just tell us what they are?

70 A. We term them contingent expenses.

49 X Q. Not what "we," but what you, mean by contingent expenses.

A. I term contingent expenses use of tools, steel, sharpening the same, as superintendent and foreman, boxing, and lewising.

50 X Q. What do you mean by that word?

A. Those lewis holes are holes placed in some part of the stone, into which is dovetailed an iron to lift it.

51 X Q. Now, you mean to testify, do you, that a foreman stone-cutter is not a competent man to judge of the expense of doing that sort of thing, such as you have described?

A. Not always.

52 X Q. You have had no practical experience as a stone-cutter yourself, have you?

A. None.

53 X Q. You were inquired of in your direct examination about the Peter Gilsey vault. Do you know that vault?

A. I do not. I know of the vault; I knew of it at the time I answered the question.

54 X Q. Have you ever seen the vault?

A. I have seen the plan of the roof.

55 X Q. Did you make the plan yourself?

A. I did not.

56 X Q. You don't know, as a matter of personal knowledge, whether there is a plan of the Gilsey vault?

A. Yes, sir.

57 X Q. How do you know it?

A. For the reason that we are building what I suppose is the Peter

Gilsey vault named in that deposition to-day, and the plans furnished me corresponded with the roof we are building; so when I answered that question I did know of the Peter Gilsey vault.

58 X Q. It amounts to this, that you are building a vault known as the Peter Gilsey vault, and some plans were submitted to
71 you which you were informed were plans of that vault, and they appeared to be, according to your understanding, plans of that vault; that is the extent of your knowledge, is it?

A. No; it is not.

59 X Q. Give it to us, then.

A. I can go further than that, which did not occur to me when I answered the first question, which is that the Peter Gilsey vault corresponded with a vault——

60 X Q. You are answering a great deal which my question does not call for. I asked you a moment ago if you had ever seen the Peter Gilsey vault. I understood you to say that you had not. Had you or had you not seen it?

A. I had not.

61 X Q. I understood you to say that the plan which was furnished to you as a plan of the Peter Gilsey vault you did not make yourself. Am I right?

A. You are right.

62 X Q. Is it true that your knowledge of the Peter Gilsey vault consists of your belief that that plan which was submitted to you as a plan of that vault, and that your belief came from the fact that you were building a vault known as the Peter Gilsey vault?

A. That is it.

63 X Q. What has become of your figures, if you made any, of your estimate of the cost of a vault roof 30 feet long and 15 feet 6 inches wide, constructed according to the drawings of the Billaud vault, so made as to present the same proportions as the vault known as the Peter Gilsey vault?

A. They are at my office in Rockland, Maine.

(These figures are to be furnished.)

64 X Q. At whose request did you make that computation?

A. At the request of Mr. H. Q. French.

72 65 X Q. Is Mr. French a customer of your people?

A. Yes, sir,

66 X Q. And has been for some time?

A. No; not for some time.

67 X Q. How long a time has he been a customer of yours?

A. The first business we had with him was about 18 months ago.

68 X Q. He has been a customer since that time, has he?

A. Yes, sir.

69 X Q. And is now?

A. Yes, sir.

70 X Q. Prior to your making the estimate as you have testified had you a conversation with Mr. French in regard to the question at issue in this case and what he desired to prove?

A. I had not.

71 X Q. You did not know, then, when you were requested to make this estimate what application your testimony would have upon any issue or question in this suit?

A. I did.

72 X Q. Where did you get that information?

A. From Mr. French.

73 X Q. Did he suggest to you before you made this estimate that, in his judgment, the cost of a vault of the dimensions which you testified to, made on the model of the Ballaud vault, would be very expensive?

A. No; he did not.

74 X Q. He did not express any opinion to you on that subject?

A. No; he did not.

75 X Q. Where was the conversation which you had with him on that subject?

A. It must have been in New York?

76 X Q. Why must it have been in New York?

73 A. Because I never saw him outside of New York city but once, and that was before anything of this kind occurred.

77 X Q. You have no recollection of the fact whether it was in New York or somewhere else; you simply argue yourself into believing that it was in New York?

A. Yes, sir.

78 X Q. Have you any clear recollection of that conversation?

A. I have not; it was very limited.

79 X Q. What did Mr. French say to you at that time?

A. I shall have to answer this as near as I can remember; I cannot give his exact words. He asked me if I had any objection to being called on a case he had against Mr. St. John. There was a question at issue as to the infringement on a patent vault roof of his.

80 X Q. Is that all he said?

A. I can't answer anything more what he said.

81 X Q. Is that all he said?

A. No, sir.

82 X Q. Very well; go on and give us what he did say.

A. I can't tell you what he said. I shall not answer these questions if I cannot answer them to some extent in my own way. I am not here as a prejudiced witness, as Mr. French knows and Mr. St. John knows. I don't care to be made ridiculous in my answers.

Mr. RANSOM: I move to strike out the answer of this witness as impertinent and not responsive.

83 X Q. Mr. White, please state as near as you can remember, the words, and if not the words, the substance of what Mr. French said to you at this time, and not what you said to him.

A. If I may state the substance of his talk with me, I can do so, but to state his exact words I cannot, because there would be no connection to part of his talk without my answers. In sub-

74 stance he asked me if I had any objection to being called as

a witness for him in a case with Mr. St. John; that it was in a case he had sued Mr. St. John for an infringement on a patent; that it would be a great accommodation to him; that is all.

84 X Q. Did he tell you at that time what he wanted to prove by you as such witness?

A. He did not.

85 X Q. You had no idea, then, from anything that he said at that conversation what it was that he wanted to call you to prove?

A. I had not. I qualify that.

86 X Q. Well?

A. I had an idea that it was——

87 X Q. You had an idea?

A. I had an idea.

88 X Q. But you did not get the idea from him?

A. I did not get it from him. I took it from my own imagination of what would be natural.

89 X Q. You did not get it from him?

A. No, sir; I did not get it from him.

90 X Q. Had you had any conversation with anybody else in regard to that case before that time?

A. I had.

91 X Q. Who with?

A. Mr. St. John.

92 X Q. Did you get any idea from St. John?

A. Yes, sir; I did.

93 X Q. Then it was from St. John that you got the idea of what French wanted to prove by you; is that so?

A. No.

94 X Q. Then you don't change your testimony in respect of your ignorance of the idea of what you were to be called to prove when you had this conversation with French, do you?

A. I do change it; I say that I had an idea.

95 X Q. Now, I want to know from whom you got it, and I understood you to state you got it from St. John.

A. I got it from St. John.

75 96 X Q. Then when you had your talk with French you knew, or at least you supposed you knew, from what St. John had told you, what French wanted to prove by you; is that what you mean to say?

A. I had an idea of the question at issue which I got from Mr. St. John.

(Question repeated.)

A. I had an idea of what was desired to be proven.

97 X Q. Then St. John had information of the question that was pending between him and French, had he?

A. He had.

98 X Q. Now, what did St. John tell you?

A. He told me French had sued him for an infringement of a patent and could give him some——

99 X Q. Say what he said, or the substance of it.

A. He said Mr. French had sued for an infringement of a patent on a vault roof, and asked me if I had ever seen a roof built after that character of the roof Mr. French claimed to have a patent on.

100 X Q. Did he say anything else?

A. Not that I remember. It was a long time ago.

101 X Q. Where was this conversation?

A. At St. John's office, in New York.

102 X Q. Do you remember when it was?

A. I do not. It is very indistinct.

103 X Q. You don't recollect the conversation distinctly at all?

A. Not distinctly; no.

104 X Q. You think you have stated the substance of what was said?

A. I think I have.

105 X Q. You feel quite sure of that?

A. Quite confident.

106 X Q. And it was from that you got your idea of what French wanted to prove by you as a witness for him in this case. Is that so?

A. I can't answer that.

76 107 X Q. Why can't you answer it?

A. Because I cannot.

108 X Q. Now, if you want to explain the reason you cannot answer it I am quite willing that you should do so.

A. No; I will let the answer stand.

109 X Q. You don't care to change it?

A. No, sir.

110 X Q. Now I wish, Mr. White, that you would answer upon that subject, and state now, once for all, to me or to anybody else, whether you desire, any more than you have, to explain the reason why you cannot answer.

A. I desire to state why I cannot answer if the question can be asked me in a manner in which I can state it.

111 X Q. Do you mean to say that you don't understand the question?

A. I understand the question.

112 X Q. There is no ambiguity about it, is there?

A. Not about that question.

113 X Q. Have you ever seen an actual granite structure such as the Billaud vault model shows?

A. Never have.

114 X. Q. Have you ever seen an actual granite structure such as the Beekman vault, which is the vault constructed after the French patent?

A. I cannot say whether I have ever seen a vault with a roof of that character.

115 X Q. Are you familiar with cemetery vaults?

A. Not the vaults themselves.

116 X Q. You never have superintended the erection of a cemetery vault. Is that what you mean?

A. That is not entirely what I mean.

117 X Q. My question is, have you ever superintended the erection of a cemetery vault?

A. Yes.

118 X Q. When?

A. Two for Mr. French, very recently, that I have in mind, and others.

77 119 X Q. You may mention any others.

A. One for our agent in Chicago, Mr. Anderson. I don't remember the name of the vault.

120 X Q. You were present when that vault was being put up and put together and superintended it?

A. No; I was not.

121 X Q. My question was, Have you ever superintended the erection of a cemetery vault? By that I mean have you been personally present when that vault has been in process of erection and putting it together and superintending it?

A. No; I have not been present.

122 X Q. Do you mean to say that in regard to all?

A. I have never seen any vault erected.

123 X Q. When you stated a moment ago you had superintended the erection of two vaults for French, you don't mean you were personally present when the stones were going up?

A. No; I was not.

124 X Q. Have you ever prepared yourself the specifications and drawings for the erection of a cemetery vault?

A. Never have.

125 X Q. Have you made an estimate of the cost of an actual cemetery vault?

A. Never have.

126 X Q. Have you ever made an estimate of the cost of the roof stones of an actual cemetery vault?

A. I have.

127 X Q. What vault did you ever estimate for the roof stones?

A. I estimated the roof stones of the Peter Gilsey vault.

128 X Q. Who is erecting that vault?

A. It is not yet being erected. I qualify it. So it is. It is going on. Mr. French is erecting the vault.

129 X Q. Had you made that estimate at the time you testified in your direct examination in this case?

78 A. I had.

130 X Q. Was that estimate made by you on the drawings furnished by Mr. French?

A. It was.

131 X Q. And your people are furnishing the granite for that vault under that estimate?

A. They are.

132 X Q. What are the dimensions of the Peter Gilsey vault that you made that estimate on?

A. The vault is about 30 feet long—I don't know whether it

varies one inch or not—and, I think, 19½ feet wide. I haven't the figures in my mind now.

133 X Q. Did you estimate the roof stones for that vault?

A. I did.

134 X Q. Was your estimate upon the plan under the patent of Mr. French?

A. It was.

135 X Q. Did you compare the plans with the patents, so that you speak advisedly and accurately?

A. No; I did not.

136 X Q. When you say that they were according to his patent explain what you mean and how you know it.

A. Well, his patent is granted——

137 X Q. Now, the patent speaks for itself. Just tell us how you know it.

A. I know it because it had all those qualifications that his patent had.

138 X Q. Won't you be good enough to tell me what qualifications that patent has?

A. He has a peculiar manner of tenoning his roof stone on the gable stones. He houses the joint, the longitudinal joint.

139 X Q. He houses the longitudinal joint?

A. Yes, sir.

140 X Q. Any other peculiarity?

A. I cannot think to call the names of the stones, but the very capstone there is tenoned after the manner as he claims under his patent.

79

141 X Q. You mean, of course, as appears by the patent?

A. As appears by the patent.

142 X Q. You compared the drawings with the patent, did you?

A. No; I did not.

143 X Q. Then you took Mr. French's word for it, didn't you?

A. I don't know as I did that.

144 X Q. Then you will tell me, Mr. White, how you identified the drawings which were presented to you to be estimated upon as being the same described in the patent of Mr. French?

A. From what I knew of his patent and what I could see of the drawings.

145 X Q. You had a previous acquaintance, then, with his patent, had you?

A. Oh, yes.

146 X Q. You had examined it before this?

A. Yes, sir.

147 X Q. You were familiar with the patent?

A. No; I can't say I was familiar with it. I was familiar with those points that I have just mentioned.

148 X Q. You did not get any information from any source except the patent itself; is that what you mean?

A. Yes; I had information from other sources than the patent itself.

149 X Q. What was it?

A. From Mr. French.

150 X Q. Then you did take his word for some things in regard to it?

A. I have no doubt I did.

151 X Q. As a matter of memory, did you?

A. I think so.

152 X Q. What was your estimate of the cost of that roof?

A. I don't remember.

153 X Q. Can you give us about it?

A. No; I cannot.

80 154 X Q. Can you give it within $100?

A. No; I could not.

155 X Q. Or within $500?

A. I don't think I could.

156 X Q. Can you say whether your estimate of the cost of the roof of that vault was more or less than $1,000?

A. I cannot.

157 X Q. Have you got the figures of your estimate of the roof of this Gilsey vault?

A. I have.

158 X Q. Will you send them over?

A. I will if you really wish them. I prefer not.

Mr. RANSOM: Yes; I want to compare the estimates.

The WITNESS: You only wish the estimate of the roof stones themselves; you don't wish an estimate of the whole vault?

Mr. RANSOM: I only want the estimate of the roof.

Continuation of the cross-examination of Mr. WHITE by Mr. RANSOM:

159 X Q. Where is the Gilsey vault situated?

A. A portion of it is at Greenwood cemetery and the balance is still at Hurricane Island.

160 X Q. It is to be erected at Greenwood cemetery?

A. Yes, sir.

161 X Q. For whom?

A. I cannot answer that question.

162 X Q. Don't you know?

A. No; I don't know. I know it is known as the Gilsey vault?

163 X Q. How do you understand it to be known as the Gilsey vault if you don't know for whom it is being erected?

A. In correspondence with Mr. French he often terms it the Gilsey vault.

81 164 X Q. Then, in your answer to direct questions in respect to the Gilsey vault, you testify about a vault which you have never seen and only know generally in regard to its existence from some plans which have been submitted to you, and from some correspondence between you and Mr. French; is that so?

A. No; that is not so.

165 X Q. What is wrong about that assumption?

A. The reason that I have seen——

166 X Q. Just answer my question; what is there wrong about my assumption?

A. The fact that I only know it from plans which I have seen.

167 X Q. And correspondence I also said?

A. And correspondence.

168 X Q. Just explain what is wrong about that; you do not seem to understand me; in what other way do you know?

A. From seeing the stones cut for it?

169 X Q. Were those stones marked by somebody with the name of Gilsey vault, so you identified them as for the Gilsey vault?

A. They were not.

170 X Q. And do you still say that the simple view by you of stones for a vault which were not marked and not designated by any mark as for the Gilsey vault enables you to say that they were actually intended for that vault; is that what you mean?

A. I do.

171 X Q. Have you ever been over to the Greenwood cemetery and looked at the place where this vault is to be erected?

A. I have not.

172 X Q. Have you pursued the study of geometry?

A. I never have.

173 X Q. You don't know anything about that branch of education, do you, in mathematics?

82 A. I will change my answer to that; I have pursued it in my course of studies at high school.

174 X Q. When did you leave school; how old were you when you left?

A. I was eighteen.

175 X Q. To what extent did you pursue the study of geometry in school?

A. Very limited.

176 X Q. Very limited?

A. Yes, sir.

177 X Q. Did you ever pursue in your school days the study of algebra?

A. I have.

178 X Q. To what extent?

A. Well, I don't know that I can answer that.

179 X Q. Was it a thorough study of that branch of education, or was it a limited study, the same as in respect of geometry?

A. It was more complete than my study of geometry.

180 X Q. Well, was it a thorough understanding by you of that branch of study?

A. No; it was not.

181 X Q. To what extent, if at all, did you study arithmetic whilst you were at school?

A. To the extent taught in the high schools in Maine.

182 X Q. You graduated from this high school, did you not?

A. I did not.

183 X Q. How long were you attending that school?

A. Three years, I think.

184 X Q. Had you been to school all your life up to the time you left that school?

A. I had.

185 X Q. What was the period of time in that school required for students to graduate?

A. It depended entirely upon the position they took when they entered the school.

83 186 X Q. How long would you have had to remain in school before you graduated according to its rules?

A. One term.

187 X Q. One term.

A. One term.

188 X Q. How many weeks or months would that have been?

A. I think about eleven weeks; I think that is the time.

189 X Q. This school was situated in Rockland, was it?

A. In Rockland, Maine; yes, sir.

190 X Q. Was it a large school?

A. Quite a large school.

191 X Q. How many teachers?

A. Three in my department.

192 X Q. Three teachers in your department or in the entire school. How many teachers were there in the entire school?

A. There were three teachers in the school that we knew as the high school; there were other schools in the same building.

193 X Q. But this is the high school?

A. This is the high school department.

194 X Q. Were those teachers ladies or gentlemen?

A. The principal was a gentleman; the others were ladies.

195 X Q. Did you attend in his department or in the department of ladies?

A. In both; some studies with him and others with the ladies.

196 X Q. After you left that school you went immediately into business and have continued in business ever since?

A. No; after I left that school I went to another school in Boston.

197 X Q. To the Commercial College?

A. Yes, sir.

84 198 X Q. Whilst in college you did not pursue the study of geometry, algebra, or arithmetic, did you?

A. I pursued the study of arithmetic, but not geometry or algebra.

199 X Q. In studying arithmetic there you studied such branches as were supposed to be useful in commercial life, did you not?

A. Yes, sir.

200 X Q. How many roof stones were there in your estimate of the Gilsey vault, the result of which you have given in your direct testimony?

A. There were seven.

201 X Q. Now, give me the names of those stones.

A. There was the front stone and the rear gable stone or tympanum; there were two roof stones on each side and one stone which formed a capstone of them all.

202 X Q. Have you named them all?

A. I have.

203 X Q. State in your own way your method of making the estimate of that roof and the principle upon which you proceeded?

A. I took the dimensions of each stone in the shape that it would come from the quarry, and the number of cubic feet in them, put a price per cubic foot for the stone in the rough, and I figured the number of surface feet of fine hammered work on it and the number of lineal feet of rabbet, the number of superficial feet of cutting on the bottom side, the jointing, and I estimated the value of each class of work, the amount we would be obliged to pay a stone-cutter for each class of work, adding thereto the contingent expenses which I spoke of yesterday, and to that our usual manufacturer's profit.

204 X Q. Have you got through with your answer?

A. I have; and the cost of moving the same from the sheds to the wharves and loading on board the vessel.

85 205 X Q. How did you ascertain the superficial feet of the gable stones?

A. By measurement of its extreme dimensions.

206 X Q. Is that the best answer you can make to that question?

A. I took its extreme length, its extreme breadth, and multiplied them, giving the superficial feet of the face of it, which was——

207 X Q. I don't ask you what it was. I want to know how you did it; that is all. Now, let me understand that perfectly. In ascertaining the superficial feet of the gable stones for the Gilsey vault, which you estimated, the result of which estimate you testified to in your direct examination, you say that you measured the extreme length of those stones and their width and multiplied those two results together to procure their superficial feet of each stone; is that right?

A. Giving me the superficial feet of each, so far as I measured——

208 X Q. Answer my question. Did I understand you to state that in ascertaining the superficial feet of the gable stones of this vault roof you measured the length of the stone and the width of the stone and multiplied those two measurements together, and that the product of that multiplication was the superficial feet in that stone?

A. It would be the superficial feet on one side.

Mr. RANSOM: I move to strike that answer out as not responsive.

209 X Q. I want you to understand my question. Did you, in making the estimate for the vault roof for the Gilsey vault, ascertain the superficial feet of the gable stone by measuring the length and breadth of those stones and multiplying those two measurements together?

A. I did not.

210 X Q. Tell me how you did ascertain the superficial feet in those gable stones.

A. I measured the length and breadth of each side—each
86 hammered face of stone—and multiplied the length of each

face by the breadth of each face and added the results of each side together, giving the superficial feet.

211 X Q. Now, do you say that that principle of ascertaining the superficial feet is the correct one?

A. It is the manner in which we obtain the superficial feet if it is a rectangular stone itself and symmetrical in proportions.

212 X Q. Were these gable stones rectangular stones?

A. They were not.

213 X Q. Then that is not the correct way of ascertaining the superficial feet of these gable stones, is it?

A. It is not.

214 X Q. Well, I wish you would tell me how you obtained the superficial feet of these gable stones.

A. I did not obtain the correct superficial feet of those gable stones.

215 X Q. Did you attempt to obtain the correct superficial feet of those gable stones?

A. I did not.

216 X Q. Was it not necessary that you should know the number of superficial feet in each of those gable stones in order to make an estimate on the cost?

A. It was not.

217 X Q. A few minutes ago you answered me that in making the estimate for this Gilsey vault roof that you first ascertained the superficial feet of the stones of that roof.

A. I did.

218 X Q. Do you now desire to withdraw that answer?

A. I do not.

219 X Q. You will let it stand?

A. I will let it go.

220 X Q. It is true, is it? Of course, you mean by that, "let it go," that it is true, don't you?

A. No; I do not.

87 221 X Q. Do you mean to say that it is not true?

A. I don't want to say that it is not true.

222 X Q. What do you mean?

A. I mean that it is sufficiently correct so that it would be understood by people in my business.

223 X Q. We will still confine our attention to the gable stones of this vault roof, and I will enquire what other measurement or calculation did you make in respect of the gable stones in your estimate of the cost of this roof.

A. I calculated the number of cubic feet in the stone that it would require to make it.

224 X Q. That you are certain of, are you?

A. I will answer that again if you will allow me.

225 X Q. Oh, yes; proceed.

A. I estimated the number of cubic feet in a rectangular block that it would require to make the gable stones.

226 X Q. You are certain about that, are you?

A. I am.

227 X Q. There isn't any doubt about that, is there?
A. There is a doubt, perhaps, of a few inches.
228 X Q. Is there any doubt about that?
A. No, sir.

Mr. RANSOM: I want to be certain of something.

229 X Q. Upon what principle and in what way did you ascertain the necessary size of the rectangular block for the gable stone of the dimensions shown on the plan which you had of this Gilsey vault roof?
A. By the use of a scale I determined the length, breadth, and thickness of the stone.
230 X Q. You did not understand my question. I will repeat it. It is, "Upon what principle and in what way did you ascertain the necessary size of the rectangular block for the gable stone of the dimensions shown on the plan which you had of this Gilsey vault roof?"
88 A. Do you mean the number of cubic feet—how I determined the number of cubic feet or the size of each dimension?
231 X Q. You do not understand my question.
A. I do not know.
232 X Q. I will try to make myself understood. I understand you to say that in estimating the cost of the gable stones for this vault roof that you took a rectangular block of stone out of which the gable stone was to be cut of sufficient dimensions to cut that stone; am I right?
A. You are.
238 X Q. I now want to know upon what principle and in what way you ascertained the requisite size of this rectangular block for that purpose.
A. I obtained the requisite sizes from the drawings of the plan I had.
234 X Q. Is that the way you obtained the requisite size of the rectangular block?
A. Certainly. I took the sizes from the drawings.
235 X Q. I did not ask you what you did about the drawings. I will ask you the question again: Upon what principle and in what way did you ascertain the requisite size of this rectangular block for that purpose?
A. I measured the drawing and got the requisite sizes in that manner.

Mr. RANSOM: I move to strike out the answer as irresponsive, and repeat the question, and I will ask the stenographer, so that the witness may understand precisely the question, to go back two or three questions and read down to the last question.

The last four or five questions and answers were then read to the witness.
89 236 X Q. Can you make any different answer than you have already made?

A. If you mean the size in cubic feet and inches, I can—if you mean the size of the length, breadth, and thickness. I understood you to mean that you wished to know how I determined the length, breadth, and thickness.

237 X Q. Can you obtain the cubical contents of any substance without knowing the length, breadth, and thickness of it?

A. You did not ask me about the cubical contents.

238 X Q. Won't you answer my question; can't you?

A. I cannot.

239 X Q. Do I now hold in my hand a correct representation of the gable stone of the Gilsey vault upon which you made an estimate?

A. Upon which estimate of the Gilsey vault do you mean?

240 X Q. The estimate that I have enquired about, the only one I ever heard of, and the one that I have specified in all my questions as the estimate you testified to in your direct examination?

A. I don't think it is a correct representation of that stone.

Mr. RANSOM: I will ask my brethren on the other side if they will let it go on the record that the thing that I called the witness' attention to is the rear gable stone from the model of the Beekman vault, which is one of the plaintiff's exhibits in the case.

Mr. FLETCHER: We assent to that, of course.

241 X Q. Will you please explain in what respect the real gable stone, as shown by the model which I have just exhibited to you, is unlike the same stone in the Gilsey vault, upon which you made the estimate?

90 A. The stone in the Gilsey vault sweeps from the ridge at an angle toward the base of the stone, and the line is brought parallel with the base of the stone for some distance for the roof stone to rest on.

232 X Q. You mean, if I understand you, that the angle in the Gilsey vault is not so acute as the angle shown upon that model; is that what you mean?

A. No, sir; it is not.

243 X Q. The block from the model which I have just shown you shows an angle from the ridge directly to the side or eaves of the vault?

A. It does.

244 X Q. And the Gilsey vault shows the slope to stop short of the eaves and leaves a space between the eaves and the termination of this slope. It is really a parallel line; is that so?

A. Yes, sir.

245 X Q. Well, a stone of that shape would require a larger amount of cutting, would it not, than a stone of the shape of the block from the plaintiff's model?

A. Yes, sir; it would.

246 X Q. I go back again now, Mr. White, to your plan and principle upon which you ascertain the requisite size of the rectangular block of stone from which you were to have cut the gable stone of the vault and ask you to state it.

A. I took the length, breadth, and thickness of the stone, multiplied them together, and the result was the cubical contents of that stone.

247 X Q. Is that your complete answer?

A. Yes, sir.

248 X Q. Have you no further answer to make to my inquiry upon that subject?

A. I have not.

249 X Q. Do you now remember the cubical contents of the rectangular block of stone which was estimated upon by you?

A. I do not.

91 250 X Q. What price per cubic foot did you put upon that stone?

A. $1.75 per cubic foot.

251 X Q. How did you ascertain the cost of cutting that rectangular block of stone into this shape which was designed for the gable stone of the vault?

A. I measured the number of superficial feet of fine work upon it, the number of feet of joint, and the number of feet of coarse work on the rear, and estimated the respective cost of each class of work, giving the value of the cutting on each stone.

252 X Q. Is that all?

A. Yes, sir.

253 X Q. How did you ascertain the superficial feet on those stones for that estimate?

A. By taking the length and width of each face upon which there was cutting and multiplying them together.

254 X Q. And what price per foot did you estimate as the cost of the cutting?

A. I don't remember.

255 X Q. Can you give us about how much?

A. I think I estimated one dollar per foot—I think it was eighty cents per foot I estimated for the fine work.

256 X Q. When was it you made this estimate, about?

A. About April.

257 X Q. Of this year?

A. That is — near as I can give it, of this year.

258 X Q. Did you at that time have regular established rates for that class of work that I have just been inquiring about?

A. No; we did not.

259 X Q. You did not have regular rates for it?

A. Not established rates.

260 X Q. You paid your cutters, I suppose, an established rate for their work, did you not?

A. No; we did not.

92 261 X Q. Do they work by the foot or by the day?

A. By the foot; by the piece.

262 X Q. By the piece?

A. By the piece.

263 X Q. Well, was that by the piece, so many feet of cutting, so much money?

A. No, sir; it was distinctly by the piece.

264 X Q. Well, I do not understand you; won't you please explain what you mean by the piece?

A. We paid them a certain sum to cut a stone.

265 X Q. Well, now, then, in ascertaining what you were willing to pay for cutting that stone and what they were willing to take for doing the work you ascertained the number of feet to be cut in the stone?

A. Yes, sir.

266 X Q. Then really, I suppose, it amounted to their getting about so much per foot for cutting on different kinds of stone?

A. About so much, yes, sir; about so much per foot.

267 X Q. For each kind of work?

A. For each class of work.

268 X Q. Did you have at the time you made the estimate billed prices for this sort of work?

A. No, sir; we did not.

269 X Q. You did not advertise in any way to the public how much such kind of cutting would cost?

A. No, sir; we did not.

270 X Q. Did you make the estimate on this Gilsey vault a close, careful, economical estimate, or otherwise?

A. I made such an estimate as I should; I don't know how I can answer that; I made a careful estimate on it.

271 X Q. I do not impugn your care in making the estimate. My inquiry is this: Did you make a close, economical estimate, or otherwise?

A. No; I did not make a close estimate.

93 272 X Q. What profit could there have been to you upon that estimate?

A. As near as I can say, I think twenty per cent.

273 X Q. Well, is that about the profit you expect to gain upon work of that description?

A. It is not the profit we expect to gain.

274 X Q. Is it more or less?

A. It is more.

275 X Q. Then when you stated a moment ago that your estimate was not an economical estimate, did you state it correctly?

A. I don't think I stated it was not an economical estimate.

276 X Q. If you did not I am mistaken myself.

A. I stated it was a close estimate.

277 X Q. Well, were you mistaken in that answer?

A. No; I was not.

278 X Q. All the estimate that you made, then, was upon a principle which showed a very much larger profit than you usually expect to gain on that class of work. Is that what you mean?

A. It showed a larger profit than we do gain—than we expect to gain.

279 X Q. And did it show a larger profit than you usually gain, as a rule of business?

A. Yes, sir; it did.

280 X Q. Will you tell me why you estimate on the cost so as to show more than you usually expend in work of that description?

A. Can I give a general answer?

281 X Q. Answer the question the best you can, and if it is not responsive we will strike it out.

A. I made such an estimate as I thought would show the actual value of the work, and what we do get for work I judged was not what we ought to get for it.

282 X Q. Well, you make a profit, I suppose, on your work, don't you?

A. No, sir.

94 283 X Q. Do you work at a loss?

A. We have worked at a loss.

284 X Q. Well, I am asking about your general custom?

A. No, sir; it may be a general custom if it goes on much longer.

285 X Q. Did you have what is called a union affair in your business—a labor union?

A. We have; yes, sir.

287 X Q. Under the regulations of that union are not your prices fixed and invariable for the cost of such work?

A. No; they are not.

287 X Q. How did you estimate the number of feet of joints in that gable stone?

A. By measuring the length and breadth of the sides upon which there were joints to be cut.

288 X Q. Do you recollect how many joints there were in the stone which you estimated to be cut?

A. There were three.

289 X Q. There were three?

A. Three—that is, I mean to say there were three sides on which work was done, which was equivalent to joint-work.

290 X Q. Upon what principle did you calculate the cost of that work?

A. Upon a basis of so many cents per superficial foot.

291 X Q. Did the stone which you estimated upon—the gable stone, I mean—show any lugs?

A. I presume you mean what I have termed tenons?

292 X Q. No; I don't mean anything of the sort. I want to know do you know what a lug is? Do you know what a lug is?

A. Well, I don't know what you term a lug.

293 X Q. You don't know what is meant by the term lug, do you? Is that what you mean?

A. No; I don't know.

294 X Q. Did you ever hear that term used in your business—in the granite business—a "lug?"

95 A. Yes, sir.

295 X Q. Was there shown upon the gable stone which you cut any projection such as appears upon the rear gable stone of Plaintiff's Exhibit H. Q. French Vault?

A. There was.

Mr. RANSOM: Those projections, I may say by way of information, have been called in this case "lugs" by all the experts.

296 X Q. The object and purpose of that projection or lug was what, if you know?

A. It was for the purpose of securing the roof stone to the gable stone.

297 X Q. How was that used for that purpose?

A. There was a corresponding counter-sinking in the roof stone to let the tenon or lug into the sinking.

298 X Q. How did you estimate the cost of cutting that lug upon that stone?

A. I don't remember exactly; I think I doubled the price of the surface.

299 X Q. Doubled the price of the surface?

A. Yes, sir.

300 X Q. That is because the entire surface had to be cut down to the size of the lug. Is that what you mean?

A. The entire surface virtually had to be cut down to the size of the lug and then lowered below the top of the lug.

301 X Q. In cutting down the slope on the gable stone—for the purpose of my question I will call the slope a bevel—in cutting down the bevel could not the lug be left on without extra expense?

A. No, it could not.

302 X Q. Would you allow a cutter anything for leaving that lug on?

A. I should.

303 X Q. How much?

A. I have forgotten the size of the lug now.

304 X Q. Well, upon what principle do you calculate such allowance? How would you figure it?

96 A. I should figure it one way to pay him for working the surface down to a level with a top of a lug or tenon and dropping the surface down around the tenon.

305 X Q. Why do you divide it into those two parts? Why wouldn't you pay him for dropping the surface down to the bottom of the lug? Why do you go first to the top of the lug——

A. (Interrupting.) I keep right along and go down to the bottom, but in two prices.

306 X Q. Tell me why you do that.

A. For the reason that he must be very particular that the lug is of the exact height and length and width that is called for. It must be the exact height, length, and width; if it is not the exact length and in the identical place called for it will lose its effect——

Mr. RANSOM: Yes, but you are now entering upon a disquisition.

WITNESS (continuing): And thereby making it a very difficult job.

307 X Q. You are wandering from my question; I am not asking you to describe its effects.

A. You asked me why I did not.

308 X Q. I asked you why you put it into two parts? However, go right along.

A. Thereby making it a difficult job.

309 X Q. How did you ascertain the number of feet of coarse work on the rear of this stone?

A. I measured the extreme length by the extreme height of the stone, or width as you would call it, and multiplied the extreme length by the extreme height, and it gave me the number of superficial feet which we should pay for on the rear of it.

310 X Q. Then you would pay your cutter by the foot all that work, would you?

A. We would estimate the value of it by the foot, yes, sir; and pay him by the foot.

97 311 X Q. Now, in these measurements did you measure the rectangular block or did you measure the gable stone, or take the measurement, rather, of the gable stone?

A. I took the measurement of the gable stone.

312 X Q. For all these calculations?

A. Yes, sir.

313 X Q. You did not, then, calculate on the size of the rectangular block from which the gable stone was to be cut?

A. Yes, sir; I did that also.

314 X Q. In arriving at the cost of the gable stone you first ascertained the requisite size of a rectangular block from which you could cut the gable stone?

A. I did.

315 X Q. And you then ascertained the superficial feet of the rectangular block, did you, on both sides of it?

A. Yes, sir.

316 X Q. And then, as you have already described, you estimated the cost of cutting the gable stone in its proper shape out of that rectangular block, did you?

A. I did.

317 X Q. Then there was some cutting that had to be done on the rectangular block which you had to pay for in addition to the cutting which you have mentioned specifically on the gable stone itself after it had been shaped?

A. There was some measurements that I had to take from the gable stone itself.

318 X Q. Well, on which of these measurements did you pay the cutter?

A. I paid him in part from the measurements taken from the rectangular block and in part from measurements taken on the stone itself.

319 X Q. Well, what proportionate part did you pay for the cutting on the rectangular block?

A. I paid on all sides of the rectangular block—six sides of it.

98 320 X Q. No; you don't understand my question. What proportionate part did you pay for work on the rectangular block—you said you paid part on one and part on the other?

A. Yes, sir.

321 X Q. And my question now is, What proportionate part did you pay for the work on the rectangular block?

A. I did not figure out the proportionate part. I could not answer that.

322 X Q. Can't you give me an idea of whether it was one-half or a quarter or one-tenth or two-thirds?

A. It might have been one-sixth.

323 X Q. I suppose what you mean by saying "it might have been" is that it probably was?

A. It probably was.

324 X Q. That is your best recollection of what the actual fact was?

A. Yes, sir.

325 X Q. What was the quality of work which you intended in this estimate to have done on the front of this gable stone?

A. It is what we call "ten-cut work."

326 X Q. Ten-cut work?

A. Yes, sir.

327 X Q. At what price did you estimate that work?

A. I think I estimated it at eighty cents.

328 X Q. At eighty cents?

A. Yes, sir.

329 X Q. Is that a fair estimate or a fair price for the cost of such work?

A. I think it is a fair estimate for the value of such work on such a sized stone.

330 X Q. And is that in accordance with your prices that you make to everybody?

A. No; it is not.

331 X Q. Is it more or less?

A. It is more.

332 X Q. How much more?

A. It is about 12 per cent. more.

99 333 X Q. Well, is this price which you named, 80 cents, the amount you paid the cutter, or is your profit included in that?

A. That is the amount I would pay to the cutter.

334 X Q. Then you would add to that your profit?

A. Yes, sir; add to that my profit.

335 X Q. What percentage would you add, or did you add in this case? That is what I am talking about all the while.

A. I do not remember.

336 X Q. Now, as a matter of actual custom in your business in making an estimate on such a stone, what proportion of the cost of cutting would you set over to the rectangular block?

A. I should set over—I could not give it; I can't give it in proportion.

337 X Q. Do you always invariably have a stone of this description that we have been talking about cut and completed by one stone-cutter?

A. No; not always.

338 X Q. Well, do you put more than one man at such a stone, as a rule?

A. As a rule we do put more than one man.

339 X Q. I am trying to reach this proportion in another way. Suppose you had put a man to cut this stone, beginning with the quarried stone, the rectangular block, and he had finished all the cutting on the rectangular block, and then met with some accident or break and you had to put some other man on it, how would you divide the cost of cutting that stone between those two men?

A. I should divide the cost according to the amount of work that the man had done who had been obliged to leave it; the number of days that he had worked, at whatever I considered his value per day.

340 X Q. Then you would divide between the two men by allowing the man who had worked on the rectangular cutting so much per day for his work. Is that right?

100 A. I would endeavor to ascertain how much of the cutting he had done by the number of days he had worked and the number of days that I would consider it would require another man to finish it; it would not be hardly possible in the condition stones are usually left to measure the number of feet of each class of work remaining undone when it is partly executed.

341 X Q. You could measure, however, the work that had been done, could not you?

A. It would depend very much on the condition in which it was left.

342 X Q. You could not always do it?

A. I could not always do it.

343 X Q. Now, Mr. White, was there any other principle or plan upon which you acted in making your estimate of the cost of this gable stone than you have already given?

A. No; I think not.

344 X Q. Now will you tell me how much or in what way or upon what principle you calculated what you call the "contingent expenses" upon this stone?

A. Let me hear the question again.

345 X Q. (344 X Q. repeated.)

A. I add a certain percentage of the cost of cutting, which was calculated to cover the contingent expenses.

346 X Q. Is that all; is that the answer complete?

A. Yes, sir.

347 X Q. Now will you specify what expenses you include in the term "contingent expenses?"

A. I include the use of tools, steel, blacksmithing, superintendence, lewising, and sometimes boxing; boxing is included, very much depending on the class of stone. In this case I added boxing to my contingent expenses.

348 X Q. What percentage of the cost of cutting, as you have already described, did you add for these contingent expenses in this case, as near as you can remember?

101 A. As near as I can remember, I added 30 per cent.

349 X Q. Is that percentage the usual percentage added by you for such expenses upon that work?

A. It is.

350 X Q. I have understood you, in your answer to my question about the work in detail and your estimate for it, that you put the larger and higher estimate upon the work than is your habit, so that you showed an unusual profit. Did I understand you correctly in that regard?

A. You did.

351 X Q. Then in adding the percentage you take the contingent expenses—you did not adopt or pursue the same rule in that regard?

A. No; I did not. It would add a larger percentage naturally.

352 X Q. You did not in this case; that is what I want to get at.

A. No, sir; I did not add a larger percentage to the cost of cutting in this case.

353 X Q. So that the increase of your estimate over your usual estimate was not in any way aided or augmented by the percentage for contingent expenses?

A. Yes, sir; it would be.

354 X Q. In this case it was not, was it?

A. Yes, sir; it was. Because I figured 30 per cent., not only on my usual price, but on the excess of price. I said my price was about 12 per cent. above the prices that were paid; therefore if I add 30 per cent. I am adding 30 per cent. on the prices we are paying and also 30 per cent. to my 12 per cent. excess, thereby adding really a larger percentage than ordinarily—that is, the percentage would be larger, thereby adding a larger contingent expense. I wish to change "percentage" to "contingent expense."

355 X Q. What was your estimate of the cost per cubic foot of the rectangular block?

A. $1.75.

102 356 X Q. Do you remember the length and the width of that block?

A. No; I do not.

357 X Q. Do you remember the length and the width of the gable stone after it was cut?

A. No; I do not.

358 X Q. Do you remember how many cubic feet there were in the gable stone after it was cut?

A. No; I do not.

359 X Q. Will you tell me how you would calculate the cubical feet in the gable stone of the Gilsey vault?

A. How I should calculate the cubical feet?

360 X Q. Yes; how would you calculate the cubical feet in the gable stone in the Gilsey vault after it had been cut?

A. I cannot answer that.

361 X Q. Could you, as a matter of accurate calculation, ascertain the cubical contents of the gable stone of the Gilsey vault after it was cut?

A. I could.

362 X Q. Tell me now in what way you would make that calculation.

A. I don't think I can tell you now.

363 X Q. Why can't you tell me now?

A. Because I have not the manner exactly in my mind. I should have to try the method in some way. I should have to know the angle of the slope of the stone. I do not know it now.

364 X Q. You do not understand my question. I do not ask you to tell me what the cubical contents were, nor do I ask you to tell me what the respective measurements of the stone actually were, but I ask you to tell me now upon what principle and in what way, mathematically, you would ascertain the cubical contents of the gable stone of the Gilsey vault after it was cut.

A. I can't give you a mathematical rule for it.

365 X Q. Well, I suppose you do not mean to say that there is no mathematical rule by which that result can be ascertained, do you?

103 A. No; I mean to say that at this time I could not give it to you.

366 X Q. Why not?

A. Because I do not remember it.

367 X Q. Well, you have but one rule, I suppose, in your business for mathematically ascertaining the cubical contents of such a shaped stone?

A. We do not have occasion to ascertain the cubical contents of such a stone; our cubical contents are the gross contents, not net.

368 X Q. Do you mean by that, then, that you have never, in your experience, worked out mathematically the cubical contents of a stone after it has been cut in some shape, such as the Gilsey vault gable stone?

A. No; I do not mean to state that; I have worked out the net cubical contents of a rectangular-shaped stone of some shape, such as this gable stone, many times.

369 X Q. You do mean to say, however, that at this moment you are not able to give to me the rule or method by which you would make that calculation?

A. I can give you the method by which I make that calculation, but I cannot give you the rule.

370 X Q. Well, you will please give me the method by which you would make such a calculation?

A. I should make the calculation by measuring the extreme length and extreme height and thickness of the stone and deduct therefrom the contents of the amount cut away by each slope; in which manner I would ascertain the amount cut away is what I am not able to explain.

371 X Q. Mr. White, for the purposes of my inquiry, which I frankly say is to test your capacity as an expert in this business, I show you an actual gable stone lying on my ground already cut, such as you have described the Gilsey vault gable stone to have been, and I ask you to take that stone and describe to me how you would ascertain its cubical contents, and for the purposes of

104 my question you have never seen any rectangular block from which that stone was made and you are entirely ignorant of the dimensions of any such block from which it was cut?

A. I beg the privilege now of saying that I can give you the method by which I would arrive at the net cubical contents of that gable stone.

373 X Q. That is precisely what I want; now please go on and do it.

A. Yes, sir; I would have done it before if the thing had occurred to me, which it ought to have done; it was very simple. I should measure the extreme length, height, and thickness of the stone and multiply them by the rules of duodecimals, giving the gross contents in the stone. I would measure the length of the angle on its perpendicular, the length of its line of base and its thickness, and one-half of the result of those measurements and multiplications would give me the contents cut away on that slope, and there are two such slopes cut away, and deducting that from the gross cubical contents of the stone would leave me the net contents; then I would ascertain the cubical contents of those tenons in the same manner, which would be a longer——

378 X Q. Go right on and tell me how.

A. I would measure the extreme length of those tenons at their base, the extreme width and extreme height, and multiply the figures into cubical contents, as I have described, in the stone itself; then I should find the cubical contents of the stone cut away by those bevels, if they were intended to be bevelled, which I cannot say whether they were or not.

374 X Q. Assume that they were not and go on.

A. Assuming that they were not, I should add that—the amount of both of them—to the result I had last.

375 X Q. Assume that they were bevelled, how would you obtain their cubical contents?

105 A. I should obtain the cubical contents of the amount cut away on each of the four sides by measuring the perpendicular and multiplying it by its base and thickness, one-half of which would give me the amount cut away on each surface of the stone.

376 X Q. You feel positive of that being the correct method and way of obtaining the cubical contents of such a shaped stone?

A. Yes, sir; I do.

377 X Q. How do you ascertain the superficial feet in a triangle?

A. The superficial feet in a triangle?

378 X Q. Yes; in a triangular-shaped block of stone, for instance?

A. I can describe it in the same way that I would measure——

379 X Q. Excuse me; how do you ascertain the superficial contents of a block of stone of triangular shape?

A. The superficial contents? I can't give you a mathematical rule for it.

380 X Q. I do not ask you to give me a mathematical rule. I asked you to state how you would do it. I give to you a block of stone in the shape of a triangle, and I ask you to give to me your method or plan of ascertaining the superficial contents of that stone.

A. Well, I started to do so and you interrupted me. Now, I do not know how I could answer it if I was not going on correctly then.

381 X Q. Now, just excuse my interruption and take the question now as a fresh question and tell me your method and manner of ascertaining the superficial contents of a stone in the shape of a triangle.

A. I should measure the length and breadth of each rectangular surface, multiply them, and add them together. The two triangular sides I should multiply, I think, by the base, the
106 perpendicular by the base and one-half of it, if it was, as in this case, a right-angle triangle.

382 X Q. Take my case, a triangle.

A. Well, a triangle. I cannot give you the mathematical answer for that.

383 X Q. You mean by that, finally, then, that you are unable to calculate the superficial contents of a stone which is in the shape of a triangle?

A. No, sir; I am not.

384 X Q. Then go on and tell me how you can do it.

A. I can't at this time.

385 X Q. Why can you not at this time?

A. For the reason that I should need some time to look it over and refresh my mind on the rules.

Mr. BUNNELL: Do you mean a right-angle triangle?

Mr. RANSOM: No; I do not mean anything except what I say—a triangle. It is well understood by a geometrical figure what a triangle is.

386 X Q. I want you now, if you please, to describe to me in words what you understand to be a triangle.

A. It is a surface having three sides and three angles.

387 X Q. Now, will you name, if there be any name according to your understanding, the different angles or sides of a triangle?

A. Yes, sir. There is the base, the perpendicular, and the hypothenuse.

388 X Q. And given to you the base, the perpendicular, and the hypothenuse, are you not able to calculate accurately the superficial contents of a substance of such a size?

A. Not unless the base is a true right angle to the perpendicular I can't do it.

389 X Q. Well, does my question assume anything out of joint in the angles?

A. No, sir; it does not.

107 390 X Q. Well, won't you answer my question, then, which is, given the perpendicular, the hypothenuse, and the base, are you able to tell me how you would ascertain the superficial contents of a substance of that shape?

A. Yes, sir; I am.

391 X Q. Go on and do it. You have tried three times; now try it again.

A. Well, I multiply the base by the perpendicular, taking one-half of it if the base is at right angles to the perpendicular.

392 X Q. And that you would give as the superficial contents of that stone, would you?

A. Yes, sir.

393 X Q. How would you ascertain the cubical contents of a stone of a triangular shape which was of a uniform thickness of two feet?

A. Very much would depend on the shape of the stone.

304 X Q. Well, I have given you the shape of the stone, which is triangular, and, of course, I must necessarily give you the thickness of that stone in order to get at the cubical contents of it, which I have assumed to be a uniform thickness of two feet, the stone to be of a triangular shape, and I want you to tell me how you would ascertain the cubical contents of such a shaped stone of that thickness.

A. I presume a stone might be triangular, and the same rule that would apply in one case would apply in another.

395 X Q. I am not testifying. You have got before your mind now a question which presents to your perceptions and to your mind's eye a stone that is two feet thick uniformly throughout and of triangular shape. I want your method of ascertaining the cubical contents of such a stone.

A. I have not the stone before me; I have not got it in my mind.

396 X Q. You can't, then, understand my question. Is that what you mean?

108 A. Yes, sir; that is what I mean.

397 X Q. Can you ascertain by any method or rule of mathematics known to you the cubical contents of a stone of triangular shape of a given thickness?

A. I can.

398 X Q. You can?

A. Yes, sir.

399 X Q. Now, then, proceed to give me that method of rule.

A. I cannot do so.

400 X Q. Why can't you do so?

A. It would be necessary for me to refresh myself on it.

401 X Q. In what way would you refresh yourself?

A. I would be obliged to make some figures; perhaps to refer to a geometry.

402 X Q. Have you finished your answer?

A. Yes, sir.

403 X Q. Why do you think you would have to refer to a geometry?

A. Because the stone might not be of such a shape that I could get at its cubical contents without; in some cases it might be of such shape exactly.

403½ X Q. It is your opinion, then, or your belief that by going to some geometry that you would there get assistance in regard to to the shape of this stone?

A. If it was an unsual shaped stone I could.

404 X Q. Now, my question was a stone of triangular shape of a given thickness. Is that an unusual shaped stone?

A. It might be.

405 X Q. I do not ask you what might be. Is that an unusual-shaped stone in your business?

A. Some of them are.

406 X Q. Is there anything unusual about a triangular-shaped stone in your business?

A. Sometimes.

109 407 X Q. Well, will you tell me is there any difference, as you understand it, mathematically speaking, between a stone of triangular shape and any other substance of a triangular shape?

A. No; only that difference between a flat surface and cubical——

408 X Q. (Interrupting.) Now, let me ask you this: Have you ever in your life calculated the cubical contents of a stone of triangular shape of a given thickness?

A. Yes, sir; I have.

409 X Q. Has that been a common experience of yours in your business and a common duty?

A. No; not a common duty.

410 X Q. You are willing to swear, are you, Mr. White, that you are entirely familiar with the method of correctly and accurately ascertaining the cubical contents of a triangular-shaped stone of a given thickness?

A. Yes, sir; I am.

411 X Q. But you are not able to give me that method or rule at this time?

A. Yes, sir; I am.

412 X Q. You are?

A. I am.

413 X Q. Then I want you to do it?

A. By the same method and rule that I described when describing the means of getting at the net cubical contents of the gable stone.

414 X Q. I do not recall myself what you said in that regard, and I ask you to state, in answer to this question, again the rule or method by which you would ascertain the cubical contents of a stone of triangular shape of given thickness?

A. I should multiply the base by one-half the perpendicular, and then both by the thickness of the stone.

415 X Q. And that would give you the cubical contents, would it, of that stone?

A. Of the stone I have in mind.

110 416 X Q. Well, have you the stone in mind that my question describes?

A. I have.

417 X Q. You are certain, are you, that that would give the cubical contents of that stone?

A. Yes, sir.

418 X Q. When you were giving me your method or ascertaining the superficial contents of such a stone, or of ascertaining the superficial contents of the gable stone which you estimated on,

namely, the Gilsey vault gable stone, you said that you multiplied by the rules of duodecimals. What do you mean by that?

A. That method of multiplying feet and inches that we use in finding the cubical contents of a stone.

419 X Q. Is your answer complete?

A. Yes, sir.

420 X Q. What is a duodecimal?

A. I can't give you the mathematical terms.

241 X Q. Do you know what a duodecimal is?

A. I can't give you the mathematical terms.

422 X Q. Then you don't know, do you?

A. I know when I figure duodecimals correctly.

423 X Q. Why won't you answer my question correctly?

A. Because I cannot.

424 X Q. Will you swear, Mr. White, that you do know what a duodecimal is?

A. I have answered your question.

425 X Q. You can say this or not, that you do know or you do not know.

A. I can't answer the question.

426 X Q. Do you mean that you cannot or that you will not. I simply want to test your conscience now whether you mean to answer my question or whether you really cannot.

A. For your own benefit?

427 X Q. No, sir; for the case.

A. I can't answer the question.

111 428 X Q. Well, now, is it not a fact that you can't answer it because you really do not know?

A. No, it is not.

429 X Q. Then, if you do know, why will you not tell me?

A. I cannot.

430 X Q. Why can you not, if you know?

A. For the reason that I cannot express myself.

431 X Q. You cannot express yourself?

A. No, sir.

432 X Q. You mean, then, that we shall understand you as swearing that you do know in your own mind and in your understanding what a duodecimal is, but that you are unable to express your knowledge in words; is that it?

A. Yes, sir.

433 X Q. Explain, if you please, what you understand to be the meaning of the term "superficial contents" of any substance.

A. It is the number of surface feet, as we would say, of all its sides—contained in all its sides.

434 X Q. What do you understand to be the meaning of the term "cubical contents" of any substance?

A. The number of cubic feet contained in a block.

435 X Q. What is a cubic foot? Describe it.

A. It is a substance 12 inches long, 12 inches wide, and 12 inches thick.

436 X Q. In making your calculations for the estimate upon this

Gilsey vault, did you depend and rely upon your school education or did you depend and rely upon your experience and knowledge gained in the business you have been pursuing since you left school?

A. I depended on the experience and knowledge I had gained in my business since I left school.

437 X Q. Did you pursue the same method and plan of ascertaining the cost of the front gable stone of this Gilsey vault roof that you have described used for the rear gable stone?

112 A. I think I did.

438 X Q. Well, is there any doubt about it?

A. No; there is no doubt in my mind.

439 X Q. You have got all the figures and calculations, as I understand you, have you not?

A. Not all the figures.

440 X Q. Did I not understand you yesterday to say that you had?

A. Well, I have, of course, the results of each computation and minutes of the prices I put on each class of work and the amount of percentages that I added, but I have not the figures that I made while I was determining the value of the cutting of each particular surface.

441 X Q. Well, now, I call your attention to the capstone of Plaintiff's Exhibit Model H. Q. French Vault, and ask you if the capstone of the Gilsey vault which you estimated was similar or like that?

A. No, I believe it was not. I do not think it was like that.

442 X Q. Well, was it unlike that?

A. Not very unlike it.

443 X Q. Can you describe the difference between that and this?

A. Well, can I refer to papers I have?

Mr. RANSOM: Oh, yes; if you desire to refresh your recollection from memoranda I have no objection.

Mr. FLETCHER: He has drawings there on which he made his computation.

(Witness refers to drawings).

A. The capstone on which I made estimate did not have this "V"-shaped sinking on the under side running continually through it from one end to the other. The sinking stopped at a point corresponding with the thickness of the gable stone.

444 X Q. That is on the inside of the gable stone?

A. On the inside of the gable stone.

445 X Q. Well, in no other respect was it unlike the capstone of the model shown you?

113 A. Yes, sir; it was unlike it in fact that both front and rear were simply plain stones without the little wash and rustic as shown on the front of that—the little fillet and rustic as shown on the front of that.

446 X Q. Well, was there any other difference?

A. I think not.

447 X Q. Did you testify yesterday that that roof of the Gilsey vault was modeled after that patent of Mr. French for vault roofs?

A. Yes, sir; I did.

448 X Q. Well, I suppose you think to-day you were mistaken in that regard because you now see that model of Mr. French's patented vault roof which you say is unlike, in the respects which you have described, the vault which you have estimated.

A. I don't know that I am mistaken.

449 X Q. Do you really think you are competent to say whether the vault roof which you estimated is or is not included within the terms and claims of Mr. French's patent?

A. I don't understand the question.

450 X Q. 449 X Q. repeated.

A. At this time I don't think I am competent to state whether it does come within the terms of his patent or not.

451 X Q. The capstone of the roof which you estimated for some portion of its length on the under side was V-shaped as the model shown you, was it not?

A. It was.

452 X Q. That shape extended the whole length of that capstone on the under side from the inside of each gable stone, did it not?

A. No.

453 X Q. Describe how far it did extend.

A. The V-shaped sinking on the under side of the capstone extended from the front and rear in toward the center to the
114 inside or back side of the gable stone; from that point to the center from each side the stone was flat on the bottom.

454 X Q. Then the V shape of the Gilsey vault capstone was simply over the gable stones where it fitted onto the gable stones, as I understand you. Is that right?

A. The stone that I figured on?

455 X Q. That is what I mean.

A. The stone that I figured on was only over——

456 X Q. Over the gables?

A. Yes, sir; I think it was; that is the way I estimated it.

457 X Q. To sum up, then, the difference between the two stones, the V shape upon the stone you estimated on simply uncovered the gable stones, and the balance of the capstone was entirely flat on the under surface?

A. Yes, sir; that is the way I estimated it.

458 X Q. Do you recollect the superficial contents of that capstone?

A. I do not.

459 X Q. Do you recollect the cubical contents of that stone?

A. I do not.

460 X Q. Did you ascertain in your estimate the superficial contents of that stone?

A. Yes, sir; I did.

461 X Q. Have you the result of that calculation?

A. I don't think I have the number of superficial feet of that stone.

462 X Q. If you have will you send it over?

A. Yes, sir; I will send it over.

463 X Q. Did you ascertain in making your estimate of the capstone of the Gilsey vault the cubical contents of it?

A. Not the net cubical contents.

464 X Q. How did you arrive at your estimate of the cost of that capstone?

A. In the same manner that I have arrived at the cost of the gable stones.

115 465 X Q. I am sorry to trouble you, but I would like you to describe the manner as applied to this particular stone—the cap stone of the Gilsey vault.

A. I ascertained the cubical contents of a rectangular stone of sufficient size to make the capstone, and on that a price per cubic foot.

466 X Q. What price?

A. $1.75 per cubic foot as the value of the stone itself. I then ascertained the number of superficial feet of fine cutting.

467 X Q. In what way?

A. By ascertaining the length and breadth of each surface having fine cuttings, adding them together.

468 X Q. Well, proceed.

A. I then found the number of linear feet of rabbet on the stone.

469 X Q. How did you do that?

A. By measuring the length of the stone.

470 X Q. What do you mean by rabbet?

A. The rabbet is the cutting away in the side of the capstone to allow the upper edge of the roof stone to set in.

471 X Q. Wouldn't it be better to say, to allow the capstone at its side to set over the edge of the roof stone or lap over the edge of the roof stone?

A. Yes, sir; to lap over the edge of the roof stone.

472 X Q. That would be a better description?

A. Yes, sir.

473 X Q. What else did you do in ascertaining the superficial cutting to be done on that capstone?

A. I estimated the value of the cutting on the bottom side by taking the number of superficial feet, measuring the length and breadth of the stone, and also estimated the cost of cutting the V sinking in the front and rear.

474 X Q. How did you estimate that?

A. I estimated that by my judgment of the length of time that it would require a man to put that sinkage in there. I did not figure that by superficial feet, I don't think.

116 475 X Q. You did not pretend to get that accurately, but you lumped it or guessed at it. Is that what you mean?

A. I estimated it.

476 X Q. You estimated it?

A. Yes, sir.

477 X Q. Without any accurate measurement or accurate calculation?

A. Without measurements or calculations I measured it.

478 X Q. Now, would it cost any more to cut a capstone of the

shape shown you by the model of that stone in H. Q. French's Exhibit Beekman Vault than the stone which you estimated upon for the Gilsey vault?

A. It would cost more.

479 X Q. That answers my question.

A. Well, I will answer it more fully.

480 X Q. I don't want you to. That answers my question. I am perfectly contented with a responsive answer to my question. It would cost more.

A. You mean what?

481 X Q. I mean what my question called for.

(The last question and answer were then read to the witness.)

482 X Q. You observe that the V shape of the capstone is preserved upon its outer surface, do you not?

A. I do.

483 X Q. I mean the capstone of the H. Q. French model, Beekman vault?

A. Yes, sir.

484 X Q. Was the same shape preserved upon the capstone of the Gilsey vault which you estimated?

A. Yes, sir; it was.

485 X Q. Did you ascertain the cost of cutting the stone in that shape upon its outer surface?

A. I measured the length of the stone by the breadth of the stone. I will qualify that. I am not sure how I estimated that. I think I estimated it by measuring the length by the breadth and multiplying them together, and added one-half of that multiplication to it at the rate of 80 cents per foot.

117

456 X Q. Well, is that the way you would do it at all times? Is that the correct method, according to your understanding?

A. That is the way I should figure it in ordinary computations of the cost of work.

487 X Q. That you understand to be the correct way of ascertaining the cost of such a shaped surface to that stone, do you?

A. That would be a correct way of making an estimate.

488 X Q. Well, when you say "estimate" you mean ascertaining the cost, don't you?

A. No; sometimes our work costs more than we estimate it.

489 X Q. Well, you intended and you succeeded in the present case in bringing your estimate to something like 20 per cent. profit, as I remember?

A. I expected to.

490 X Q. You succeeded in doing that; you have already testified to that, have you not?

A. I have already testified that I expected that I had 20 per cent. profit.

491 X Q. On the whole roof?

A. On the whole roof.

492 X Q. Then, of course, you got 20 per cent. profit on each

component part of the roof, did you not? You do not mean that you made more on one part than you did on another part, did you?

A. No; I should think I had 20 per cent. on each component part.

493 X Q. Now, would it cost any more to cut the capstone of a vault according to the shape of the capstone shown you at this moment in the model of H. Q. French's Exhibit Beekman Vault than if the surface had been entirely flat instead of V-shaped?

A. Yes, sir; it would cost more.

494 X Q. Explain why.

118 A. For the reason that a man would be obliged to take the stone in a rectangular form and there would be very much labor extended in roughing, as we term it, all of that stone away to make it sloping on each side. There would also be three good lines to maintain, whereas on a flat surface they would have two to maintain, which would increase the cost also.

495 X Q. Did you make separate estimates and record them or enter them down upon some paper, memorandum, or book of each stone of the roof of Gilsey vault?

A. I did.

496 X Q. And those, you think, you have preserved?

A. I have preserved those.

497 X Q. I call your attention now to the roof stone as shown by the model of it in H. Q. French's Exhibit Beekman Vault and inquire whether the roof stone of the Gilsey vault was like that?

A. No; it was not like it.

498 X Q. And in what respect was it unlike that?

A. In the Gilsey vault the roof stone was divided into two stones.

499 X Q. On each side of the vault?

A. On each side of the vault running longitudinally.

500 X Q. How were those stones on each side of the vault held in place at the joint which must have existed in the center of the vault?

A. They were divided lengthwise.

501 X Q. How was the joint between those two stones protected, if at all?

A. It was covered by a lap of the upper stone over the lower one by making a rabbet on it.

502 X Q. The same as in the capstone?

A. The same as in the capstone, or virtually the same.

503 X Q. Would the roof stone of the Gilsey vault be

119 more or less expensive than the roof stone as shown in the model H. Q. French's Beekman vault?

A. I think that they would be less expensive than shown in the Beekman vault.

504 X Q. Because divided into two stones. Is that the reason?

A. Yes, sir; because divided into two stones.

505 X Q. It is much more expensive, as I understand it, to procure from the quarry and cut a very large stone, like the roof stone of such a vault, than it would be to make that roof out of two or more stones?

A. Yes, sir; I think I had rather do the extra labor on two stones than to take my trouble of procuring it in one solid piece. I have not made any figures on that.

506 X Q. Did you pursue the same rule or method of estimating the cost of that difference in respect of the capstone?

A. I did.

507 X Q. Did you ascertain the superficial contents of the roof stones?

A. I did.

508 X Q. Did you ascertain their cubical contents?

A. I did their gross contents.

509 X Q. You mean you ascertained the gross contents of the rectangular stones out of which they were cut, don't you?

A. I do.

510 X Q. Did you preserve the results?

A. I did.

511 X Q. And those you will send over?

A. Yes, sir.

512 X Q. In estimating the cost of a vault of the dimensions described in your direct examination, constructed according to the drawings and model of the Billaud vault and so made as to present the same proportions as the vault known as the Peter Gilsey
120 vault, did you pursue the same plan, principle, and method of ascertaining the expense of such a vault roof?

A. So far as the two could be figured on the same basis I did.

513 X Q. Did you make the same estimate as to the cost of the cubical contents of the stones which you calculated would be necessary to go into that vault roof?

A. Did I figure the stones at the same price per cubic foot?

514 X Q. Yes, sir.

A. No, sir; I did not.

515 X Q. Did you figure it at less or more?

A. At more.

516 X Q. How much more did you figure it?

A. What size do you mean—the size in proportion of the Gilsey?

517 X Q. Yes, sir; as 30 x 15.6.

A. I figured it at $4 per cubic foot, $2.25 more per cubic foot than I figured the stone for the Gilsey vault.

518 X Q. The Gilsey vault is 30′ long by 15′ 6 wide, or is to be?

A. I think it is; I am not sure about that; I only know from what I have got out of that. I have never had any occasion to measure the extreme length or breadth of it.

519 X Q. You have seen the plans, you said yesterday, on which you figured the estimates, and they gave you the length and breadth, didn't they, of the vault?

A. It would, if I had those to measure them.

520 X Q. Is it a fact that you did measure them? How could you make your estimate unless you did?

A. I had no occasion, in making the estimate, to measure the extreme length and breadth of the vault. I did have occasion, in making the estimate, to measure the extreme length when I meas

ured the capstone, but I had no occasion to measure the extreme width of it at any time.

121 521 X Q. How could you get at the number of cubical feet necessary in the roof stone, including the capstone, without knowing the width of the vault?

A. By measuring the length and breadth of the roof stone and capstones. I should not get the width of the vault by measuring the widths of all those three stones.

522 X Q. On the Gilsey vault there were five roofstones?

A. Yes, sir; five roof stones—two gable stones.

523 X Q. Those five roof stones completed the roof of the Gilsey vault?

A. Yes, sir.

524 X Q. You mean the width of the roof stone and capstone were furnished you?

A. No, sir; I do not.

525 X Q. What was furnished you by way of measurement of those stones on which you made your estimates?

A. The scale drawings of the stones were furnished me.

526 X Q. Well, did those drawings show the width of these stones and the length?

A. They did.

527 X Q. I don't understand your testimony upon that point.

A. If you will allow the stenographer to stop one minute I will make it clear to you.

528 X Q. We want to take it down; we want to make it clear to the court.

Mr. FLETCHER: Describe the whole thing, then.

Mr. RANSOM: Describe the whole thing and let it go on the record. Confine yourself as much as possible to the question, which will be repeated to you.

529 X Q. X Q. 528 repeated as follows: "Well, did those drawings show the width of those stones and their length?"

A. They did; the roof and capstones of the Gilsey vault
122 are not laid flat and level, so the sum of their width would not have given me the exact width of the vault itself.

530 X Q. You are misapprehending my inquiry. I have abandoned any inquiry as to the width of the vault. I want you to tell me what was furnished to you in the measurement of the stone which you estimated upon for the roof of the Gilsey vault. Just tell us what was furnished to you in the measurement?

A. The scale drawing was furnished to me.

531 X Q. That you have answered. Now, I ask you again, do those drawings show the length and width of the stones of that roof?

A. They do.

Mr. FLETCHER: We had better have those drawings put in.

Mr. RANSOM: Who made them?

Mr. FLETCHER: I don't know who made them.

532 X Q. The computations you made were made on those drawings?

A. Yes, sir.

Mr. RANSOM: I would like to have them marked, then.

533 X Q. Will you annex or permit to be annexed to your deposition the drawings which you now have here of the roof of the Gilsey vault from which you made your estimate, as you have testified?

A. I will ask you if you will allow me to attach them to my figures.

534 X Q. I want them to be left here now; if they are going to be put in at all I want them left here to-day.

A. I should need to take them home.

535 X Q. What for?

A. To see whether I was giving you all of my computation.

536 X Q. Have you here with you now lying before you on the table the plans which were furnished to you by Mr.
123 French from which you made the estimate of the cost of the roof for the Gilsey vault?

A. I have.

Mr. RANSOM: I offer them in evidence and ask to have them marked.

Mr. BUNNELL: We don't object.

(Admitted and marked "White's scale drawing of roof of Gilsey vault, November 6, 1884, E. S. Knauer, examiner.")

537 X Q. This paper, which is marked "White's scale drawing of roof of Gilsey vault, November 6, 1884," is the only drawing that you had from which and upon which you made the estimate which you have testified to?

A. It is.

538 X Q. Have you here the scale drawings which were furnished you by Mr. French and upon which you made your estimate of a granite roof 10 feet long by 5 feet 6 inches wide, so made as to present artistic proportions and constructed according to the drawings and model in evidence of the Billaud vault?

A. I haven't a drawing. It is not a scale drawing.

539 X Q. Is it the drawing from which you made the estimate?

A. It is the drawing from which I made the estimate.

Mr. RANSOM: I ask to have that marked.

(Drawing marked "White's drawing roof of Billaud vault, November 6, 1884, E. J. Knauer, examiner.")

540 X Q. Have you the plans or drawings here—if so, please produce them—of your computation and estimate of the cost of a granite roof of the same quality as that of the one shown upon the plans last put in evidence of the Billaud vault and size constructed according to the specification of H. Q. French's patent sued on?

124 A. No; I have not.

541 X Q. Where is it?

A. I have never had another drawing of it. I have never had a drawing of the Billaud vault than that one.

542 X Q. You did not understand my question. After you had been asked in your direct examination to compute the cost of a granite roof 10 feet long by 5 feet 6 inches wide, so made as to present artistic proportions and constructed according to the drawing and model in evidence of the Billaud vault, you were asked this question: "Please compute and estimate the cost of a granite roof of the same quality and size constructed according to the specifications of the H. Q. French patent sued on and state the amount." I ask you now to produce any plan or drawing you had upon which you made that computation and gave your answer to that question.

A. What was the number of the question?

543 X Q. No. 11.

A. No; I had no plan.

544 X Q. Did you at that time have for the purposes of the estimate asked for by that question the specifications and drawings of the French patent as shown on the drawing of the patent itself?

A. I had his letters patent. I did not work from it.

545 X Q. Now, you may state how you arrived at the estimate which you gave in answer to that question.

A. I cannot answer it, for the reason I do not know which plan I used.

546 X Q. Have you no recollection, then, of the method or plan by which you arrived at the estimate given by you in your answer to your 11th direct interrogatory? I understand you to say no to that question.

A. No; I have not.

125 457 X Q. Now, have you the plans or drawings from which you computed or estimated the cost of a granite roof 19 feet 9 inches long and 15 feet wide, constructed according to the drawing and model of the Billaud vault, and so made as to present the same proportions as the Beekman vault referred to by the testimony in this case?

A. I have.

548 X Q. Who furnished you with that plan or drawing?

A. Mr. French.

Mr. RANSOM: I ask to lay that in evidence.

Mr. FLETCHER: It is already marked in evidence.

WITNESS: It is the same plan that I made all of my estimates on the Billaud vault.

549 X Q. I understood you to say yesterday that you were not educated as a mechanical engineer.

A. Yes, sir.

550 X Q. You have no proficiency or competency in respect of the completion of such a structure as the Billaud vault?

A. Not a mechanical engineer or professional man; no.

551 X Q. You would not feel yourself competent, would you, to take the working drawings of the Billaud vault and accurately

superintend the construction of an actual vault out of the rough stone and put it all together, would you?

A. No; I would not.

552 X Q. You would not think yourself competent to do that same thing in regard to any of these other vaults that we have been talking about?

A. No, sir; I would not.

553 X Q. The extent of your competency as an expert goes only to your ability to estimate the cost of the stone and of the work which may be described to you by its dimensions, is it not?

A. Described to me by drawings.

554 X Q. That gives its dimensions?

A. Yes, sir.

126 555 X Q. You do not regard yourself as competent to take the plans of a vault like the Billaud vault or the H. Q. French patented vault, or the Gilsey vault, and from those plans give an accurate estimate of the cost of any of those structures, do you?

A. I do not know what you mean by structure.

556 X Q. Well, I will strike out the word structure and say "vault."

A. I do consider myself competent to make an estimate of the cost of all the granite work contained therein. I am not competent to estimate the cost of its construction and other expenses about the vault.

557 X Q. You think you could take the plan of either one of those vaults, and that you are competent to estimate the cost of the stone and the work of dressing and preparing that stone for the vault, do you?

A. I do of the H. Q. French vault; think I am entirely competent.

557 X Q. You don't think you are competent in respect of the Billaud vault; is that what you mean?

A. It depends on where you draw the line of competency.

559 X Q. I am asking your conscientious opinion of your own ability and competency?

A. Will you please read the question?

560 X Q. 558 X Q. repeated as follows: "You don't think you are competent with respect to the Billaud vault; is that what you mean?"

A. I think I am competent to make an estimate on the roof of the Billaud vault for my own works and my own quarry, or an estimate that will apply to that—that I would sell the stone for.

561 X Q. That is as far as you can go?

A. That is as far as I can go.

562 X Q. Can you make working drawings and designs for such a piece of work as the Billaud vault?

A. I cannot.

127 563 X Q. Can you take the exhibit in this case, which shows the drawing of that Billaud vault, and describe and explain those drawings and their measurements and their fitness

one to the other, so as to make a complete and symmetrical structure as shown by the drawings?

A. You ask me if I can explain the drawings?

564 X Q. I did not ask you to explain it; I asked you what my question says.

A. Yes, sir; I can explain the drawings. I understand the drawings fully, each piece, and its relation one to the other.

565 X Q. Do you regard yourself as competent to say whether or not in the mechanical principles or in practical use there is any difference between the plan and design for the Beekman vault and the Billaud vault?

A. There is a difference between them.

566 X Q. No; I did not ask you to state whether there was or not; I don't think myself you are competent, but I want to see what you know, and I ask you again, Do you regard yourself as competent to say whether or not in the mechanical principles or in practical use there is any difference between the plan and design for the Beekman vault and the Billaud vault?

A. I think there is a practical difference between the two.

567 X Q. I did not ask you what your opinion was.

A. Do I think I am competent, is that the question?

568 X Q. Yes, sir.

A. I think I am competent to judge whether there is a principal difference between the two.

569 X Q. Practically they both present, when finished, a roof of granite for a vault, do they not?

A. Yes, sir.

570 X Q. Well, then, the practical difference would be simply the difference in the shape of the stones which went to make up that roof?

A. Yes, sir.

571 X Q. That would be the only practical difference, wouldn't it?

A. Yes, sir; that would be the only practical difference.

572 X Q. Now, would you regard yourself, Mr. White, as competent to go before a board of mechanical engineers and architects and describe any difference in the design or plan of these two vaults?

A. No; I should think not.

573 X Q. Can you make a working drawing and diagram of each piece of stone for the Beekman vault roof?

A. I can.

574 X Q. Did you ever make a working drawing or plan or diagram of a vault roof in your life?

A. I never did.

575 X Q. Have you the plans or drawings from which you computed and estimated the cost of a granite roof of the same quality and size as the Beekman vault, constructed according to the actual plan of said vault and according to the specification of the H. Q. French patent sued on?

A. I don't know that I have the plan corresponding with the actual size of the vault.

576 X Q. You estimated and testified on your direct examination in answer to the 13th question what, in your opinion, would be the cost of a granite roof of the same quality and size of the Beekman vault, constructed — to the actual plan of said vault and according to the specifications of the H. Q. French patent sued on. Upon what basis did you make that estimate, and from what plan or memorandum or measurement did you make that estimate?

A. I made the estimate from a plan sent me marked "Beekman vault roof, see question 13th," on which I based the estimate given in my testimony.

577 X Q. Who sent you that plan?

A. Mr. French.

129 578 X Q. And that plan shows the size of the stones used in that vault roof, does it?

A. I don't know about the vault itself; I only——

579 X Q. My question is plain. It is, Does that plan show the size of the stones used in that vault roof?

A. I don't know; I have no means of knowing that.

580 X Q. How, then, did you estimate the cost of such a roof as is shown on that plan?

A. From the plan sent me.

581 X Q. Could you estimate the cost of the roof unless you had the dimensions of the stones which were used to make the roof?

A. Yes, sir.

582 X Q. Are you certain of that?

A. If I had the plans drawn to any scale I could ascertain the size of the stones for myself.

583 X Q. I am calling your attention to the plan which you produced, which is marked "Beekman vault roof, see question 13th," and I ask you again to state whether that plan shows the sizes, the dimensions of the stones which were to be used in constructing that roof. You have already answered me that it does not. Do you desire to change that answer?

A. I did not know that I answered it does not.

584 X Q. Never mind what you answered it; answer it now.

A. I don't know that it shows the size of the stones used in the Beekman vault or not.

585 X Q. I ask you now to look at it and state whether it does or not.

A. It shows the size.

586 X Q. I don't ask you to state what it shows; I ask you to state whether it shows or not the dimensions, the size of the stones in that roof.

A. It shows the dimensions and size of the stones which would be required to make the roof as called for on this plan marked "Beekman vault roof," see question 13th.

130 587 X Q. And it was from that plan that you made the estimate which you gave in your answer to the 13th direct interrogatory?

A. It was.

Mr. RANSOM: I ask to have that marked.

Plan marked "White's scale drawing, roof of Beekman vault, Nov. 6th, 1884, Edward J. Knauer, examiner."

588 X Q. Have you the plan or drawing from which you computed or estimated the cost of a granite roof 30 feet long and 15 feet 6 inches wide, constructed according to the drawings and model of the Billaud vault and so made as to present the same proportions as the vault known as the Peter Gilsey vault?

A. No; I have not.

589 X Q. In answer to the 14th direct interrogatory you gave an estimate of the cost of such a roof. From what did you make that estimate; what memorandum, plan, or drawing, if any?

A. I made it from the drawing marked "White's drawing, roof of Billaud vault, Nov. 6th, 1884."

590 X Q. Well, that plan or drawing shows a structure of what dimensions?

A. It does not show any dimensions.

591 X Q. Have you a plan or drawing from which you computed and estimated the cost of a granite roof of the same quality and size as the Peter Gilsey vault, constructed according to the actual plan of the said vault and according to the specifications of the H. Q. French patent sued on?

A. I have not the plan.

592 X Q. What memorandum or plan, if any, did you have from which you made the computation and estimate of the cost of the granite roof which you gave in answer to the 15th direct interrogatory?

A. I computed the cost of the granite roof in answer to the 15th question from the drawing furnished me by Mr. French,
131 marked "Gilsey mausoleum roof, see question 15th," and is marked in evidence "White's schedule drawing of roof of Gilsey vault, Nov. 6th, 1884."

593 X Q. You have no means of knowing whether that Exhibit "White Schedule Drawing of Roof of Gilsey Vault, Nov. 6th, 1884," is an accurate drawing of the Gilsey vault, have you?

A. I have means of knowing that it is not an accurate drawing of the Gilsey vault roof as it is being now built.

594 X Q. Have you the plan or drawing from which you computed and estimated the cost of a granite roof 30 feet long and 19 feet wide, constructed according to the plans and model of the Billaud vault and so made as to present the same proportions as the vault known as the Jay Gould vault?

A. I have not.

595 X Q. From what plan or memorandum, if any, did you make the computation and estimate as given in your answer to the 16th direct interrogatory, which refers to the vault just described in this question?

A. From the plan already submitted, marked "White's drawing, roof Billaud vault, Nov. 6th, 1884."

596 X Q. Have you the plan or drawing from which you computed and estimated the cost of a granite roof of the same quality and size of a vault given as those of the Jay Gould vault, constructed according to the actual plan of such vault and according to the specifications of the H. Q. French patent sued on?

A. I don't know.

597 X Q. From what memorandum or plan or drawing, if any, did you make the computation and estimate which you gave in answer to your 17th direct interrogatory?

A. From a drawing furnished me by Mr. French, marked "roof of the Gould mausoleum, see question 17."

132 Mr. RANSOM: I offer that one in evidence.

Drawing marked "White's schedule drawing of roof of Jay Gould vault, Nov. 6th, 1884, Edward J. Knauer, examiner."

598 X Q. In making the estimate which you gave in answer to the 16th direct interrogatory you undertook to compare this plan, which has just been put in evidence—"White's schedule drawing, roof Jay Gould vault, Nov. 6th, 1884"—with the plan marked in evidence "White's drawing, roof of Billaud vault, Nov. 6th, 1884," did you not?"

A. I did not.

599 X Q. In making the estimate which you gave in answer to the 16th direct interrogatory did you consider the drawing which is marked "White's drawing, roof of Billaud vault?"

A. I did not.

600 X Q. You made, then, as I understand you, an estimate which you gave in your answer to the 16th direct interrogatory without any reference whatever to the schedule drawing marked "White's drawing, roof of Billaud vault?"

A. Oh, I did refer to this (indicating).

601 X Q. You did refer to it?

A. Yes, sir.

602 X Q. You mean, then, that you did make a comparison between those two plans when you made that estimate, did you?

A. No, sir; I mean I did not make any comparison between the two plans.

603 X Q. You considered, however, the plan of the Billaud vault roof when you were making the estimate of the Jay Gould vault roof, did you not?

A. No, sir; I did not.

604 X Q. How do you account for the very wide difference between your estimate of the cost of the Beekman vault known as the "H. Q. French patent" and the vault of the same size and dimensions made and constructed according to the plan of the Bil-
133 laud vault, as shown by your Exhibit "White's Drawing, Roof Billaud Vault, Nov. 6th, 1884?"

A. From the fact that there is a much greater amount of stone required to build the Billaud vault, if measured in its rough and rectangular shape, than is required to build a roof like that called the Beekman vault roof, and the stones are much larger in those, and

the difference in the value on them I consider much larger than I have placed.

605 X Q. I did not ask you what you have done. I want you to account for the difference without giving the figures.

A. The cost of cutting of the Billaud vault is much greater than the cost of the cutting of the Beekman vault, so called, from the fact that those stones forming the roof or saddle stones are cut away to a great extent in a very difficult manner. More than one-half of the gross contents of the stone is to be pointed off by a great amount of labor, and in the two stones at the ends, forming the gable stones as well as the saddle stones, and that labor in digging out there must be done very slowly, as it is not free on but two sides. The risk of cutting such a stone as the saddle stones is much greater than the risk taken in cutting any stone in the "Beekman vault," as I term it.

606 X Q. Have you finished?

A. Yes, sir.

607 X Q. You have given your best judgment and opinion and belief on the cause of the difference in cost between the roof of the Beekman vault and the Billaud vault, have you?

A. The greater part of the difference.

608 X Q. If there is any other difference I wish you to state it now.

A. There is another addition to the Billaud vault that makes it very expensive. The stones forming the gable and saddle of the roof have tenons on them covering nearly their entire top surface; besides, on the side of them, running down from the ridge to
134 the side of the vault, is a long rabbet, all of which must be very carefully done. The covering stones to the roof are very wide and have a counter-sinking on the other side of them, covering almost their entire surface, to correspond with the tenons of the side stones, forming the span, which makes those stones very expensive.

609 X Q. All of that increase of expense is an increase in the labor in cutting the stones into that shape?

A. That increase of expense is in the labor of cutting the stones.

610 X Q. Into that shape?

A. Into that shape.

611 X Q. When you say tenons you mean what we have called all along in this case "lugs," do you not?

A. Yes, sir.

Mr. FLETCHER: I believe they call them panels in the Billaud vault.

612 X Q. The counter-sink on the under side of the roof stone of the Billaud vault which you have just spoken of is what we have called "mortise." That is what you mean by counter-sink?

A. Yes, sir; mortise.

613 X Q. Now let me ask you, Mr. White, the lug or tenon, as you term it—the counter-sink or mortise, as we term it—in the Billaud vault, are made there to accomplish the same purpose in hold-

ing the stones in place that the tenons or lugs or mortise in the Beekman vault are made for, are they not?

A. I should think they were.

614 X Q. Mr. White, I understand the point and meaning of your answer to the question which was to account for the difference in the cost of these two vault roofs to be extra amount of labor of the cutting to be done on the stone and the extra size of the stones in order to get out the stones for the vault in proper shape. Am I right?

A. Not wholly.

615 X Q. In what respect am I wrong?

135 A. The cost of getting out the stones I have not put in—the cost of getting out the roof stones.

616 X Q. I don't mean digging them out of the quarry, but I mean getting the stones of sufficient size from the quarry in its rough state out of which to cut the stones which is required for the Billaud vault. I understood you to say in the very beginning of your answer that that was one of the items of the increased expense.

A. Yes, sir.

617 X Q. Because of the increased size stone?

A. Yes, sir.

618 X Q. Then I am right in that regard?

A. Then in the cost of cutting it and the cost of handling it.

619 X Q. Then the next item of difference is the increased cost of cutting the stone to the required shape?

A. Yes, sir.

620 X Q. Those two constitute the difference between the two vault roofs in cost?

A. Yes, sir; virtually.

621 X Q. Virtually?

A. Yes, sir.

622 X Q. Practically that is all?

A. Practically that is all.

623 X Q. The Billaud vault, which you examined, as shown on your Exhibit "White's Drawing Roof Billaud Vault, Nov. 6th, 1884," is in accordance with this same vault which was furnished to you at the same time, is it not, as you understand it?

A. Not entirely in accordance with the model.

(Mr. RANSOM: Now, then, we would like to have that model.)

624 X Q. Will you state in what respect the plan which you have put in evidence here of that vault, which I have just referred to in a previous question, and the wooden model of the vault which was furnished to you at the same time differs?

136 A. The difference in the plan and model is that the model of the capstone has scotches or O. G. mouldings on each side on the top of it, whereas the plan don't call for it at all. The covering stones on the roof have an O. G. moulding on three sides of it.

625 X Q. Whereas the plan shows——

A. Whereas the plan shows the sides perfectly plain.

626 X Q. Well, there is no practical difference between the plan and the wooden model?

A. No.

627 X Q. These differences you have pointed out are merely ornamental?

A. Yes, sir.

628 X Q. The capstone of the plan shows a perfectly square, plain stone?

A. Yes, sir.

629 X Q. And the side stones covering the sides of the roof in the plan show a plain-edged stone, and in the model the edge has O. G. moulding for ornamentation?

A. That is what I mean to say.

630 X Q. The capstone of the plan of the Billaud vault, which you have put in evidence, is laid upon the top of the roof, is it not?

A. It is.

631 X Q. And how is it held in place?

A. It is secured there by the base. I can explain it by a double rabbet or countersinking on the under side of it, and with the top of the covering stones of the roof tenoning up into it.

632 X Q. And that is similar to the way the capstone of the Beekman vault is held in its place, is it not?

A. Yes, sir; they are held in their place in the same manner; they differ otherwise.

633 X Q. I understand that; but they are held in their place in the same way?

A. Yes, sir; they are both secured to the roof stones by
137 what we call the countersink and tenon and what you term mortise and lug, but in that respect they are the same.

634 X Q. And they are used for the same purpose, so far as that goes—I mean in settling and holding the capstone in its place?

A. You mean that the lug and mortise is used for the purpose of holding the capstone?

635 X Q. Yes.

A. Yes.

636 X Q. Now, does the capstone of the Billaud vault, as shown on your exhibit of the drawing of that vault, which you have put in evidence and marked "White's drawing, roof of Billaud vault," serve to bind the two covering stones of the roof together?

A. It does bind them together in part.

637 X Q. Well, of course, they are held in their place by the aid of lug and mortise or tenon and countersink?

A. Yes, sir.

638 X Q. And the additional help in binding them is the capstone; that is what you mean, is it not?

A. Yes, sir; it does aid to bind them.

639 X Q. Now, does the capstone in the Billaud vault also cover up and protect the joint of the two cover stone- of the ridge of the structure?

A. That is the main service it performs.

640 X Q. Does the capstone of the Beekman vault, of Mr. French's

patent, serve the same purpose in respect of the side covering roof stone upon that vault as the capstone of the Billaud vault?

(Objected to upon the ground that the witness does not appear as a mechanical expert, but solely as an expert on comparative cost.)

Question repeated.

A. It serves the same purpose.

641 X Q. You were asked, on the nineteenth direct interrogatory, this question: "Do your estimates include any expense of re-
138 moval or handling?" and your answer, which is a long one but seems to be fairly responsive by the first two words, which were, "None whatever." I ask you now to state whether you increased the cost of the Billaud vault in your estimate by including in your calculation any computation or estimate of removal or handling of the stones for that vault.

A. I did include the cost of removal and handling of the stones for that vault—for all handling that must be applied to it.

642 X Q. Do not state reasons.

A. I am not stating reasons. I say I did add the cost of handling the stones about the yard and shops and wharves. I added nothing beyond our quarries and wharves.

643 X Q. Did you not, then, make a mistake in your answer to the nineteenth direct interrogatory, which was, "Do your estimates include any expense of removal or handling?" when you said, "None whatever," because one of your estimates was on the Billaud vault?

A. If I answered "none whatever," I did make a mistake.

644 X Q. You have now described in the answer to my previous question wherein that mistake was made, have you not?

A. I have.

Redirect examination of Mr. WHITE by Mr. FLETCHER:

645 Re-D. Q. You stated in your cross-examination that you were accustomed to soliciting orders for granite work. Is making estimates a part of that?

A. It is a part of it.

646 Re-D. Q. One necessarily includes the other?

A. Not necessarily.

647 Re-D. Q. Well, in the manner in which you transact business?

A. It does.

139 648 Re-D. Q. Has the Peter Gilsey vault been erected yet?

A. Only partially.

649 Re-D. Q. In what stage of construction is it?

A. The vault itself is about one-half erected as to the walls, and there is still some part of the granite work that is unfinished.

650 Re-D. Q. Is the roof set?

A. It is not.

651 Re-D. Q. Where are the pieces that constitute the roof?

A. At Hurricane Island.

652 Re-D. Q. In answer to the question by defendant's counsel you proposed to state why you could not answer more fully whether you obtained all of your ideas upon the matters in the dispute in this action from Mr. St. John and from Mr. French when you were interrupted. Have you anything further to state on that subject?

A. No; I do not know that I have.

653 Re-D. Q. Who in the first instance exhibited to you the design and appearance and plan of the vault which you have since discovered was described and claimed in the H. Q. French patent?

Mr. RANSOM: I object as incompetent and improper evidence, because it calls for the witness to testify to a comparison made by himself of the H. Q. French patent with a description of the vault, and he is not shown to be competent to make such comparison. It calls for his opinion on that subject, and he is not shown to be competent to express an opinion thereon.

654 Re-D. Q. 653 X Q repeated.

A. I do not know that the plan and design of the vaults were actually shown me before the plans were sent me accompanying the questions which I answered in my direct examination. The matter was first called to my attention some two years ago,
140 I think, by Mr. St. John, but whether I saw the plan then or a mere photograph I cannot say. I only had an indistinct remembrance of that part of it when I testified before.

655 Re-D. Q. In the figures given by you in your comparative estimates in the direct examination have you included anything as the cost of erection?

A. No; I have not.

656 Re-D. Q. Then I understand that the estimates given by you were simply for the cost of materials cut, ready for erection, and adapted to the construction of the designs of different sizes upon the two patterns of the H. Q. French and Billaud vault; is that so?

(Mr. RANSOM: I object as incompetent and improper. The witness hasn't been shown to be an expert capable of expressing an opinion on the subject, and I object to it further upon the ground that the question is leading.)

A. That is so.

657 Re-D. Q. In your cross-examination you have given the methods in which you have computed the superficial surface of the gable stones and other stones, and have described slight differences between these stones and those shown in the model, H. Q. French vault. In what way did your computation vary from what you would now compute the same to be if you were again inquired of?

A. Not very materially.

658 Re-D. Q. Do you know in any respect in which it would vary?

A. I do not know anything that would make it vary.

659 Re-D. Q. The gable stone on the rear of the Gilsey vault having one face additional besides that shown in the model of the H. Q. French vault, would the cost in construction be more or less

than if it had been made precisely according to the design shown in the model?

141 A. Additional face on the stone would make an increase of cost.

660 Re-D. Q. Was that increase of cost included in your estimate in the Gilsey vault made after the H. Q. French patent as it was actually constructed?

A. It was.

661 Re-D. Q. How can you give any approximate of the amount of difference which the cutting of that extra face in the gable stones would amount to?

A. No; approximate estimates are not at all good in granite work.

662 Re-D. Q. What is that?

A. Approximate estimates are not at all good in granite work, unless you have opportunity to make some measurements and figures. An absolute guess, without figures or measurements, would be of no use.

663 Re-D. Q. Then you would be unable to even guess for the purpose of an expression of your opinion at the present time?

A. It would be a matter of a few dollars only.

(Mr. FLETCHER: That is what I want to get at.)

(Mr. RANSOM: I suppose the object of the inquiry is to know whether the expense would be very much increased by that extra face?)

(Mr. FLETCHER: That is the idea precisely.)

WITNESS: No; it would not.

664 Re-D. Q. In the capstone of the Gilsey vault you have testified that between the inner perpendicular lines of the gable stones the capstone was not excavated, as shown in the model of the H. Q. French vault. Can you describe what difference there would have been in your estimate of cost if such an excavation had been made from front to rear continuously?

142 A. I cannot state what difference.

665 Re-D. Q. Would it be large or small?

A. In the estimate for the small-sized roof it would be small; on the large capstones called for in the large sizes the cost would be quite large. It has a big sinkage and a good deal of roughing to do on it.

666 Re-D. Q. Could you give us an idea about how many dollars or hundreds of dollars or thousands of dollars it would cost, roughly estimating it?

A. For a rough estimate I would place the cost $75 on the capstone of the Gilsey vault—to dig it out in that V-shaped sinkage that the bottom capstone shows and now presents.

667 Re-D. Q. In your comparative estimates of the costs of the Billaud and H. Q. French vaults, have you figured any different basis of profit in one from that figured in the other, or have you used the basis of twenty per cent. for profits on both?

A. I used the same basis for profits on both.

668 Re-D. Q. How is it concerning the same matter as to the

price of stone cutting and facing. Was there any difference between the price, which you computed to amount to about 80 cents per superficial foot in your cross-examination?

A. I do not remember what my price was on the Billaud work; on the smaller size on which I made the estimate I doubt if I made any difference; on the larger size roofs I undoubtedly made it a larger price to cover the great amount of risk in the shape of some of the stones.

669 Re-D. Q. Then that cost was solely to cover risks and not to cover the wages of the stone-cutters. Is that right or not?

A. Virtually that is right, although in the manner in which I made this estimate, intending that the stones should be made by piece-work, we would be obliged to pay the stone-cutters for carrying
143 that risk, unless we hired him by the day and carried it ourselves; at any rate, we should figure in the risk.

670 Re-D. Q. You say that the percentage of profits which you charge is larger than that which you actually receive in your trade experience. Is that dependent on computation, or is your estimate based upon a purely theoretical foundation of what you think the profit should be?

A. My estimates were based upon what I considered a fair value for all of the work.

671 Re-D. Q. Is it necessary, important, or useful, in computing the expense of a construction of granite roof such as described in the direct questions and answers, to compute the net cubical contents of any stone after it has been completed?

A. It is not.

672 Re-D. Q. In quarrying the stone are or are not the pieces which are taken from the quarry approximately rectangular?

A. They are.

673 Re-D. Q. Is the cost which you have mentioned as being included in your estimates of handling around about the quarry and in placing upon shipboard any greater in the case of the same size of the Billaud vault than it would be in the corresponding size of the H. Q. French vault?

A. It is larger.

674 Re-D. Q. Please state the reasons, and, if possible, the percentage of difference as nearly as you could estimate it.

A. The reasons of the difference is that the shape of the stones of the Billaud vault roof make the stones much more difficult to handle. They are large, cubically shaped stones and very heavy until cut away. Then they are heavier stones in almost every instance than those of the French patent roof. The percentage of difference in cost I am unable to state.

675 Re-D. Q. Is there anything in the shape of the stone
144 in the Billaud device which would make the handling of them any more expensive or dangerous after being cut?

A. Yes, sir; after being cut they are not so easily handled from their shape. Even after they are boxed in the large, cubically shaped box it could not be so readily rolled as a longer and more rectangular-shaped stone. They could be boxed and braced inside

in such a manner that the risk of handling them would be decreased. The risk of handling the stone that I mentioned was the risk in turning it over while it is cut from time to time, while there is no boxing on it.

676 Re-D. Q. You speak of the price at which you charged for the rough, rectangular-shaped stones used in the construction of the H. Q. French vault at $1.75 per cubic foot, and the rough stones used in the construction of the Billaud vault you estimated at $1 per cubic foot. Will you please state why you make the difference and upon what basis you estimate it?

A. I make the difference in the price because the shape of the stones are much—the stones are so shaped that they are much harder to procure from the quarry in the shape of a big cubical block required for the Billaud vault than they are in the longer pieces required for the French vault. The different weights between the two corresponding stones is very much greater.

677 Re-D. Q. Is that all?

A. That is all—yes, sir—that can be said.

678 Re-D. Q. Upon what basis do you estimate the difference of the cost?

A. Only on the usual price we receive for rough granite in our business and the cost of quarrying stone, which we have kept with some great care for a number of years.

679 Re-D. Q. In a word, upon the reasonable value in the business of such stone?

A. Yes, sir; we have sold some very big stones and based prices on what it would cost us to get them and what price we receive for them.

145 680 Re-D. Q. Let me ask you in general if the prices of stone always increase regularly with the cubical contents.

A. No; it does not always increase with the cubical contents. Sometimes the price per cubit foot increases as the cubical contents decrease. In very small stones they would require even more per cubic foot than in the ordinary sized stones, and up to certain sizes and within certain sizes there would be no increase of cost per cubic foot. It is only when stones are wanted of extraordinary size and shape that the price increases per cubic foot.

681 Re-D. Q. Is the price dependent as well on the shape as on the cubical contents and on the size?

A. To some extent. A very thin stone covering a large surface would be more expensive per cubic foot than a smaller surfaced stone or a stone covering a smaller surface that had the same number of cubic feet in it.

682 Re-D. Q. You referred to the difference between the model of the Billaud vault, in evidence, and the drawing upon which you estimated the cost of such a vault, in that the model contained considerable of O. G. moulding. Will you state whether that would render your figures larger or smaller as to the cost of the Billaud vault if those O. G. mouldings had been computed by you as part of the cost?

A. If I had figured in the cost of that O. G. moulding my price would, of course, be much larger.

683 Re-D. Q. Very much larger?

A. No; not very much larger.

Recross-examination by Mr. RANSOM:

684 Re-X Q. I understand you to say to Mr. Fletcher that a very long, wide stone, of somewhat limited or restricted thickness, rather thin, would be more expensive, and would be estimated at
146 more per cubic foot than a block of stone which would cover a much smaller surface, but would contain the same cubical contents.

A. Yes, sir; I so stated.

685 Re-X Q. The capstone of the Gilsey vault fairly comes within the description, then, of a long, wide, but thin stone, does it not?

A. No; not hardly, the roof stone——

686 Re-X Q. Just confine yourself to the capstone. You say it does not hardly.

A. It does not.

687 Re-X Q. Won't you say why not? It is a large, thin stone after being cut, is it not?

A. It is a long, thin stone after it is cut, but before it is it is a long but quite thick stone, and the cubical contents of it will sum up quite large.

688 Re-X Q. I don't care about that. I only just want to get at the idea.

A. It is quite thick in the rough.

689 Re-X Q. Now, as it was cut or to be cut for the Gilsey vault, it was not thin down at all on the under surface except the width of the gable stones; the balance of the stone was left smooth and flat?

A. It was.

690 Re-X Q. What would you say of the side roof stones of the Gilsey vault—that they were long and wide and thin stones?

A. They were long and thin, but they are not wide.

691 Re-X Q. They are not wide on that vault, because the roof stones of that vault are cut in one-half lengthwise?

A. Lengthwise.

692 Re-X Q. Making two roof stones on each side of that vault?

A. Two.

693 Re-X Q. And in the model there appears to be but one stone on each side of the vault?

A. So it is.

694 Re-X Q. Would you say that the roof stone of the
147 Gilsey vault would cost as much as the roof stones of the Beekman vault, which are really one stone?

A. If the two stones were of the same size, length, and breadth, they would. On the Beekman vault that I figured was for the small roof—a small size.

695 Re-X Q. Now, then, give me your judgment. Take a Beek-

man vault of the same size of the Gilsey vault, upon which you estimated; which would be the more expensive in the cost, the Beekman roof or the Gilsey?

A. The Beekman roof would be more expensive.

696 Re-X Q. Well, would it be considerably more expensive, or very little?

A. It would be considerably more; I could not say how much until I tried it.

697 Re-X Q. Now the Billaud plans show the outer roof or cover stone to be the same as the Beekman stone, do they not?

A. They show to be virtually the same, with the exception of the tenoning; where in the Beekman roof stone two small tenons are used, one at each end, and in the Billaud there is a large tenon, covering the greater part of the under surface. There is also a difference in fitting the capstone on.

698 Re-X Q. I did not ask you to describe the difference in cutting in those stones at all. My question is to know (which you have answered really) whether the outer roof stone, the covering stone of the Billaud vault is not the same shaped stone—that is, a long, wide, thin stone—as that of the roof stone of the Beekman vault?

A. It is.

699 Re-X Q. Now, you take the Beekman vault, of the size which you estimated on, and take a Billaud vault of the same size, and as to the covering roof stones of the Billaud vault and the roof stone of the Beekman vault there would be no material difference
148 in cost, would there, except in respect to the extra cutting on the Billaud roof stone?

A. Of those two stones there would be no extra cost.

700 Re-X Q. And, in making and estimating the cost of those two roof stones, you would not increase the cost of the Billaud stone over the Beekman stone, would you?

A. If I were making an estimate of those two stones alone I would not.

Mr. RANSOM: That just answers me. That was what I supposed, of course, you must come to.

701 Re-X Q. Now your figures of estimate, which you have described upon the Billaud roof, is occasioned by the shape of the inner roof stone of that vault?

A. Yes; it is.

702 Re-X Q. And their shape, in your judgment, requires the extra large stone in the roof, which you have described would be more riskful in handling and more expensive in turning over, and that increases the estimate which you have already described as being the increase of cost of the Billaud vault over the Beekman vault?

A. It does; the cost of the stones, together with the increased cost of cutting.

703 Re-X Q. There is more cutting on the Billaud vault inside roof stone than on the stones which compose the roof of the Beekman vault?

A. Yes, sir.

704 Re-X Q. Is it not true that the inner roof stones of the Billaud vault, when the vault is erected and they are in positions, show a continuous tenon or lug from one end to the other?

A. It is true.

705 Re-X Q. And is it also true that the outer or covering roof stone of that same vault shows a mortise or counter-sink on the under side cut out so as to fit over that lug and tenon and hold the roof stone in its place?

A. It is true.

149 706 Re-X Q. You would not estimate the stone necessary for the capstone of the Billaud vault at any more per cubic foot than you would that capstone of the Beekman vault?

A. I don't remember their respective sizes.

707 Re-X Q. I don't think that is important if you catch the drift of my inquiry?

A. I do catch it.

708 Re-X Q. Let me inquire again. I have in mind what you have said as the reason why you have increased the estimate from $1.75 to $4 per cubic foot when you estimated the cost of the Billaud roof, and I am now inquiring in detail in respect to the component parts of that roof, and I have passed them all and had your opinion and have reached the capstone of that vault roof. It seems to me from an examination which I now invite you also to make of the capstone of the Beekman vault, as shown in the model here before us, and the capstone of the Billaud vault, as shown before us, that the Beekman vault capstone would be a more expensive stone in the roof than the Billaud vault capstone would be, and I want your judgment upon that inquiry?

A. I wish to inquire if I stated that my price on the Beekman vault was $1.75 per foot against $4 on the corresponding size of the Billaud.

709 Re-X Q. That is my recollection, and that is Mr. Fletcher's assumption this morning in his inquiries.

A. I was speaking at that time of a larger size.

Mr. FLETCHER: Not any specific statement of which stones, except the stones he figured on.

Mr. RANSOM: Then I withdraw my question entirely, because it is utterly unimportant to me about figures. I will withdraw my question and put another.

150 710 Re-X Q. In your opinion, would the capstone of the Beekman vault be more expensive to obtain from the quarry of a requisite size in the rough than the capstone of the Billaud vault?

A. It would not be more expensive per cubic foot, as I remember the two stones——

711 Re-X Q. That answers me. Go on, if you want to.

A. As I remember the two stones, the capstone of the Beekman vault cubes up very much larger, considering the length of it, than the capstone of the Billaud vault of a corresponding size roof.

712 Re-X Q. Well, wouldn't that make the stone more valuable

to the quarry and justify a larger charge per cubic foot for that stone?

A. No, sir; because at a much smaller rate per cubic foot even we would be getting much more money for the stone, and the difference in the labor I don't think would cover the difference in the money we would receive.

713 Re-X Q. Well, it follows, does it not, from your answer to that question that the capstone of the Billaud vault would be less expensive?

A. I think it would be less expensive at more dollars per cubic foot, even.

714 Re-X Q. Well, that is not exactly what I want. Would you charge more for the cost of the stone in the rough per cubic foot for the Billaud vault capstone than you would for the Beekman vault capstone?

A. I would.

715 Re-X Q. Now, tell me why?

A. For the reason that it is a long, narrow, and thin stone, and there would be about the same amount of labor in drilling and working it out from the quarry that there would be on the Beekman capstone, and at the same price per cubic foot we would not get anything like the same money for it that we would for the capstone of the Beekman.

716 Re-X Q. Of course, you would not, because there would not be so many cubic feet in it.

A. There would not be so many cubic feet in it, but the
151 cost of moving and drilling that stone would be almost as great as that on the Beekman. The Billaud vault and the Beekman vault of the corresponding size do not, I think, come under what I was saying about every big stone and every peculiar stone in the first part of examination this morning. I was talking then about the Gilsey.

717 Re-X Q. I understand you, then, to mean that in your opinion the capstone of the Billaud vault of the same size vault as the Beekman vault would be estimated by you at a greater cost per cubic foot than the capstone of the Beekman vault?

A. It would.

718 Re-X Q. Then does it not come down to this, that the thicker and the wider and the longer the stone the less expensive per cubic foot it is?

A. Within certain limits it is true.

719 Re-X Q. A long, thin, small stone is relatively very much more expensive, in your judgment, to get out and to cut than a large, wide, thick stone of the same length?

A. Yes, sir; it is so within certain limits, but it would reach a certain point where it would not be true.

720 Re-X Q. It is so in the capstones of these two vaults, is it?

A. Of the Beekman and the Billaud of the corresponding size.

721 Re-X Q. It is so, is it?

A. Yes, sir.

722 Re-X Q. Now, do you think, Mr. White, that the difference

in cost between the capstones of these two vaults, the Billaud and the Beekman, of the same size, would be as great as the difference between $1.75 and $4.00 per cubic foot, considering those two stones?

A. It would not.

723 Re-X Q. Now, what would be the proportion of difference, in your judgment, in the expense of those two stones?

A. I could not answer that without seeing the number of cubic feet in each stone.

152 724 Re-X Q. Now, I beg your pardon, I think you could. I don't want to know anything about how much the difference would be in dollars and cents, but I want to know the proportionate difference, whether it would be one-half as much more or three times as much more, and without regard to the number of cubic feet and without regard to the difference in dollars and cents. I ask your opinion as to the proportionate difference between these two capstones on two vaults of corresponding size. You have already testified to me very clearly that the capstone of the Billaud vault ought to be estimated at more than that of the Beekman vault; now, I inquire how much more in proportion?

A. I could not answer how much more in proportion without I had the sizes of the stone before me, and I haven't them before me. When I made the estimate I did.

725 Re-X Q. Then you can't tell?

A. I don't think I made the difference that you named then.

726 Re-X Q. I did not assume that that was the difference at all. I only want to know what the proportionate difference is as near as you can tell. I don't expect you to get it accurately.

A. Now, from what I can remember, I should say the proportionate difference might be fifty per cent. difference.

727 Re-X Q. That is, the capstone of the Billaud vault ought to be fifty per cent. greater than that of the Beekman vault in vaults of a corresponding size?

A. Of those two sizes I should say——

728 Re-X Q. Of what two sizes?

A. Of the sizes called for of the Beekman and Billaud.

729 Re-X Q. You mean the size called for by the French patent; that is what you mean, is it not?

A. As shown in the Beekman vault.

153 730 Re-X Q. You know, without now stating, how many feet long the Beekman vault upon which you estimated was, don't you?

A. I think I do.

731 Re-X Q. Well, you mean to be understood that the capstone of the Billaud vault of that length would be fifty per cent. more, in your judgment, in the cost than the Beekman capstone?

A. I do.

732 Re-X Q. For the sake of great certainty I will include in my inquiry the actual proportions of the Beekman vault upon which you estimated, viz., nineteen feet and nine inches long and fifteen feet wide. Now, with that amendment to my question you would

still say that the Billaud capstone would be fifty per cent. more expensive than the capstone of the Beekman vault?

A. I should say it was.

733 Re-X Q. Now, suppose you should reduce the size of the Beekman vault to the size of the Billaud vault upon the plan, viz., 10 feet long by 5 feet 6 inches wide, being the same upon which you made your estimates, what would you say then in respect of the expenses or cost of the capstones?

A. I should think the same ratio of difference would be maintained.

734 Re-X Q. Then it would make no difference, in your judgment, whether the two vaults were large or small in respect to the cost of each?

A. It would make no difference.

735 Re-X Q. The relative cost—I mean the comparative cost.

A. It would not within those dimensions—19½ to 10 feet.

736 Re-X Q. That is not my inquiry. I have passed that. You have answered already that it would make no difference in respect to those. Now I say take any-sized vault—whether it be 10 feet, 19 feet, 5 feet, or 30 feet long—would it make any difference or relatively in your judgment as to the cost of the capstones for each?

A. It would make a difference.

154 737 Re-X Q. Now, would the difference be greater or would it be less?

A. The length might be run on to such a length that there would come a time when perhaps even the capstone of the Beekman vault would be more expensive.

738 Re-X Q. You could not run it very much longer, could you, than 19 feet and get the stone?

A. Yes, sir; we could.

739 Re-X Q. How long a stone could you get from your quarry for, say, the Beekman capstone—1 stone?

A. I could get one 100 feet long.

740 Re-X Q. How much per cubic foot would you estimate the cost of the stone in the rough for the capstone in Billaud vault, say 19 feet 9 inches long and 15 feet wide, those being the dimensions of the Beekman vault?

A. I don't know the size that the capstone would be.

741 Re-X Q. You can tell within twenty-five or fifty cents per foot of what that capstone would be worth?

A. The capstone of the Billaud vault, 19½ feet long, I should say would be worth about $1.25 per cubic foot.

742 Re-X Q. Now take the capstone of the Beekman vault of the same size, and how much would that be worth per cubic foot in the rough?

A. I should think it would be worth 75 cents per cubic foot.

743 Re-X Q. There is more cutting on the capstone of the Beekman than there is on the capstone of the Billaud vault, as shown in the plans upon which you estimated, is there not?

A. Yes, sir; there is.

744 Re-X Q. Considerably more?

A. Yes, sir; considerably more.

745 Re-X Q. How much more per cubic foot would you estimate the cost of the outer covering roof stones of the Beekman
155 vault in the rough, remembering that the Beekman vault is 19 feet 9 inches long and 15 feet wide?

A. These answers that I am giving now, I wish to say that I am giving them without knowing very nearly what each stone would cube up to and what they would bring me respectively.

746 Re-X Q. That is not an answer to my question.

A. Perhaps I don't understand the question.

747 Re-X Q. (Re-X Q. 745 repeated.)

A. I think that the stone would be worth $1.50 per cubic foot.

748 Re-X Q. How much more per cubic foot would you estimate the cost of the outer or covering roof stones of the Billaud vault of the same size, 19 feet 9 inches long by 15 feet wide?

A. I would estimate them at $1.75, for they are thinner than the others; if they were so very much thinner I would call them $2.00. As I remember the thickness of those, I think I would call them $2.00 per cubic foot. As I remember them, they were very thin stones.

749 Re-X Q. Why do you change your judgment in respect to the cost of that stone as compared with the cost of the roof stone of the Beekman vault from that given to me a few minutes ago, when you said, in substance, that you would make no difference in your estimate of the cost of the outer or covering roof stone of the Billaud vault and the roof stone of the Beekman vault in vaults of the same dimensions?

A. For the reason that since then you have, I think, given me the length and width of it, and I remember that the covering stones of the Billaud vault were thinner than the Beekman.

750 Re-X Q. And the thicker the stone the less expensive it is?

A. When cut it is.

751 Re-X Q. Of the same length and width I mean?

156 A. When it is a long, wide stone, within certain limits, it is less expensive per cubic foot.

752 Re-X Q. How much would you estimate the cost of the inside roof stones of the Billaud vault in a vault 19 feet and 9 inches long and 15 feet wide per cubic foot in the rough?

A. I should figure the inner roof stones of the Billaud vault at $3.00 per cubic foot.

753 Re-X Q. What — you estimate the cost in the rough of the gable stones in a vault built after the model now before you of the Beekman vault, 19 feet long and 9 inches and 15 feet wide?

A. I would estimate the gable stone at $1.25 per cubic foot.

754 Re-X Q. Why do you make such a difference between the estimate on the gable stones of that vault and the inner roof stones of the Billaud vault?

A. The gable stones of the Beekman vault are very much smaller and much more easily procured than those in the *Beekman* vault.

755 Re-X Q. In what respect are they smaller? My inquiry is directed to an estimate on the cost of these stones in two vaults of

precisely the same size. Now, in what respect, considering that, are the inner roof stones of the Billaud vault larger than the gable stones of the Beekman vault?

A. They would be the same width and height while they would be 6½ feet thick or long, whereas the gable stone of the Beekman vault is two feet thick or long.

756 Re-X Q. And when you say 6 feet long and two feet long you mean running with the length of the vault?

A. I do.

757 Re-X Q. From front to rear?

A. Yes, sir; I do.

758 Re-X Q. Now, it is a fact, is it not, that the Billaud vault shows an inner roof stone which is not shown in the plan or model of the Beekman vault?

157 A. It does.

759 Re-X Q. And the existence of that stone would materially increase the cost of that vault over the other, would it not?

A. Very much.

760 Re-X Q. What estimate do you make of the cost of the stone in the rough of a long, narrow stone similar to the capstone of the Billaud vault, which might be used as a coping stone?

A. Our usual prices for such a stone is $1.25 per foot.

761 Re-X Q. $1.25?

A. $1.25 per cubic foot.

762 Re-X Q. Have you sold long coping stones similar to the one inquired about in the last question?

A. Not often. We have not sold coping stones in a long time.

763 Re-X Q. The price you have given me, $1.25, has that been your price for such stones?

A. As a rule, that has been our price.

764 Re-X Q. You have estimated the cost of stones in the rough per cubic foot for the two vaults under inspection, and you have given your reasons for the difference in the estimate, generally, that a long, wide, thin stone would be more expensive than a chunky or different shaped stone which would cover less superficial area, but would have the same number of superficial feet in it, as I understood you. Now, have you estimated recently upon any granite work as to the cost per cubic foot of granite, without regard to the size or the shape of the stone or whether great or small?

A. I have.

765 Re-X Q. Is that the Standard Oil Company's building?

A. It was.

766 Re-X Q. Your estimate on that was 50 cents a foot?

A. Yes, sir.

158 767 Re-X Q. That is very much less, in your judgment of the stones on this vault?

A. It is not.

768 Re-X Q. It is not?

A. No, sir.

769 Re-X Q. You would explain the difference there because of the difference in the size and the shape of the stones?

A. No, sir; not wholly.

770 Re-X Q. How do you account for the difference?

A. The difference, partially, in the character of the stone that was used.

771 Re-X Q. You mean in quality?

A. I mean in quality.

772 Re-X Q. The quality of the stone?

A. The quality of the stone, only one face of the stone needing to be nice, clear stone, and consequently the price was put on the stone as an aggregate. There were many different sizes and many different shapes, making it, therefore, a desirable quarry order, because almost everything that is cut out of a quarry would fill some place in this order.

773 Re-X Q. You undertook in that estimate to strike what you regarded as a fair average?

A. Yes, sir.

774 Re-X Q. And on some of the stones you would have increased that estimate considerably—that is, standing by themselves.

A. I would.

775 ReX Q. And upon some of the stones you would have decreased the estimate considerably, standing by themselves?

A. I should.

776 Re-X Q. But taking the whole building together, that was your judgment of the fair estimate of the cost of those stones, I take it. Is that so?

A. No, sir.

159 777 Re-X Q. Tell me what you mean.

A. I mean that the value of the stone in that building was really more than 50 cents per cubic foot.

778 Re-X Q. Did you estimate in the cost of the Billaud vault of the same dimensions as that of the Beekman vault, 19 feet 9 inches long and 15 feet wide, the expense of cutting the fancy work or ornaments which appeared on the plans?

A. I did not.

779 Re-X Q. Your estimate was for perfectly plain work?

—. Yes, sir.

780 Re-X Q. On both vaults?

A. On both vaults.

Redirect examination by Mr. FLETCHER:

781 Re-D. Q. In the same size of roof is there or is there not a difference in the width of the outer roof stones in the Beekman and the Billaud vault in that the one runs to the peak and the other to a capstone lying between the stones——

A. There is that difference.

782 Re-D. Q. Then, in estimating upon the comparative prices on the outer roof stones of the Billaud vault and the H. Q. French design, that extra width has to be taken into consideration in determining the price per cubic foot of the rough material?

A. It does.

783 Re-D. Q. In your figures of $4.00 per cubic foot, referred to in your cross-examination, to what structure and to what stones in that structure did you particularly refer?

A. I refer to the structure of the Billaud vault as made according to the size of the Peter Gilsey vault, and also made to the size of the Jay Gould vault, and it applied to all stones in that roof. I made, if I remember right, an average price of the value of the stones in each lot. I took the whole schedule of sizes and looked them over and made an average price.

160 Statement by witness:

Concerning my testimony given in answer to cross-question 272, I wish to say that at the time of my answer I erred in stating that I figured 20 per cent. profit in my computations of costs of the different structures. I should have said, and it is the fact as I find on subsequent examination of my figures, that I included no profits whatever in my estimates, but simply computed the net cost of the structures described.

In answer to cross-question 327 I stated I thought I estimated the cost of the ten-cut work on the Gilsey vault at 80 cents per square foot. On referring to my memoranda of computations I find I estimated the cost at 60 cents per square foot.

Upon a cursory examination of my testimony these are all the corrections I desire to make.

WILLIAM S. WHITE.

Subscribed to and sworn to before me this 9th day of December, 1884.

EDWARD J. KNAUER,
Special Examiner.

161 Examination of HAMLINE Q. FRENCH by Mr. FLETCHER:

1 Q. You are the plaintiff, are you not, Mr. French?

A. I am.

2 Q. Did you hear the testimony given by Mr. Howland?

A. Yes, sir.

3 Q. Do you recognize the contract shown to you, marked in evidence "Defendants' Exhibit Contract between French & Co. and Gerard Beekman, dated 13th July, 1878?"

A. I do.

4 Q. Is that the contract under which the vault known as the Beekman vault was erected?

A. Yes, sir.

5 Q. As it stands?

A. No, sir; it was altered after this contract was made.

6 Q. At the time that contract was made was such a vault as is now erected in Greenwood cemetery, known as the Beekman vault, contemplated between the parties?

A. Not precisely.

7 Q. In what respects was the one referred to in that contract and the one now erected different?

(Mr. RANSOM: I object to that on the ground that the description of the one referred to in that contract can best be given by the contract itself.)

(Mr. FLETCHER: It does not refer to it.)

A. The vault, as called for in this contract, was to be made of the three long roof stones resting on a brick wall in the rear. The side wall of the front granite was to be mortised and tenoned into the roof, and the front gable stone was to be made in three pieces.

162 8 Q. What is the construction of the vault as it is now erected in all respects?

A. The front gable stone is in one piece; the roof stones in the rear rest on the gable stone instead of the brick, as ordered; the mortise and tenon on the side walls is omitted, and the stones of the roof are each mortised and tenoned on the gable stones both front and rear.

9 Q. Can you remember when it was that the changes were made from the device as contemplated by the contract of July 13th, 1878, to the device as at present erected?

(Mr. RANSOM: I objected to — on the same ground as that taken to the last question. It is improper evidence, in my view, because it calls for the witness' statement as to what device really was contemplated by the contract referred to, and that paper would be the best evidence.)

A. Some of them were made under the order of August 7th, 1878.

10 Q. When were the others ordered to be made?

A. Well, the remaining changes, other than what is called for in this letter, were never ordered by Mr. Beekman.

11 Q. How came them to be made?

A. I changed the plans, arranging for the gable stones during the progress of the work.

(The letter referred to offered in evidence and marked "Complainant's Ex. Beekman Letter, Dec. 30th, '84.")

12 Q. Have you with you the drawings of the plan demanded by the Beekman contract of July 13th, 1878?

A. Yes, sir.

(Drawings produced and marked in evidence "Compl't's
163 Ex. Front and Side External View of Beekman Vault, as contemplated by the contract of July 13th, 1878, Dec. 30th, 1884," and "Compl't's Ex. Ground View of Beekman Vault, as contemplated by the contract of July 13th, 1878, Dec. 30th, 1884."

13 Q. Please look at Def'ts' Ex. Original Drawings of Two Sections of Beekman Vault," and state when it was that the red inking upon the left-hand section at the top was placed upon it?

A. I cannot tell.

14 Q. Can you tell how far the brick arch shown upon the same cross-section was to extend front and rear?

A. The plan shows a brick arch, but the specification calls for its

omission, as the contract was made running the three roof stones full length of the vault, displacing the arch.

15 Q. Mr. Howland testified, in answer to the 25th direct question, that the method of constructing the roof and locking the stones of the roof together, as described in your patent, was devised or invented or discovered by Mr. Beekman and himself and reduced to a drawing before Mr. French was employed to build that vault. Is that true or false?

A. False.

16 Q. What are the facts concerning the conception of the idea and Mr. Beekman's and Mr. Howland's connection with it?

A. I called to see Mr. Beekman in relation to any work he might want for Greenwood cemetery. He proposed to build a vault and sketched on a piece of paper, which I have, or, rather, on the back of one of my cards, his idea of overcoming the action of the elements and frost. The method was to have the stones forming the sides resting on a socket joint. This joint was to be formed of a cannon ball.

Mr. RANSOM: I object to any testimony from Mr. French of a conversation between himself and Mr. Beekman upon this subject
164 as improper, because it appears by the last sentence of the answer that something was said between Mr. Beekman and Mr. French which the latter characterizes as it "was to be" so and so.

(Witness continuing:) This joint was to be formed of a cannon ball which would allow the stone to fall back to its place in the event of being raised by frost. I sketched on the same card my idea of forming the roof of three pieces, with the centre stone overlapping the two side stones to protect the joints from exposure to the weather.

17 Q. Were these two drawings made at the same time or different times?

A. At the same time.

18 Q. In order of time, which was made before, "Def'ts' Ex. Sections of Beekman Vault" or the drawing upon the card which you have just referred to?

A. The drawing on the card which I have referred to was made prior to the drawings for the vault as contracted for.

19 Q. At that time was there more than one card used in your sketches?

A. There were two.

(Cards offered in evidence and marked "Compl't's Ex. Beekman and French Sketches Number 1 and Number 2.")

20 Q. On card No. 1 there are four separate sketches. Please describe who made the several sketches and what they represent.

A. Below and to the right of figure 17 I sketched my idea of lapping one stone over another. The other diagram on this same card was made by Mr. Beekman.

21 Q. In looking at your diagram which way should the card be held?

A. With the card on end.

22 Q. Looking at Mr. Beekman's diagram on the same card, which way should the card be held?

A. With the figure 17 at the top.

23 Q. Refer now to Beekman and French sketch No. 2, and state who made the different drawings on that card and what they represent.

A. Sketches A and B were made by Mr. Beekman. B represents an arch having stones leaning against the sides of the arch. Diagram A indicates the method of using a joint at the base of one of the side stones to allow its resuming its original position should it be disturbed by the frost.

24 Q. In diagram A there is a semi-circular line underneath the A. What does that represent?

A. That is a ball joint, to be made by the use of a cannon ball.

25 Q. Who made the drawing C and what does it represent.

A. I made the diagram C to represent my idea of forming the roof without the use of an arch and by the center stone overlapping the side stones of the roof to guard the joints against the action of the weather.

26 Q. After that interview with Mr. Beekman, at which these drawings were made, did you ever again hear of the cannon ball and arch device?

A. I heard nothing more of the cannon ball, but the plans submitted to me for estimate for the Beekman vault showed roof stones drawn in accordance with my diagram C, which, however, were to extend only part way along the length of the vault. The rear of the vault was covered by the earth. The drawings show a brick arch to be used.

27 Q. In "Defendants' Ex. Original Drawing of Two Sections of Beekman Vault" is the arch referred to shown?

A. Yes, sir.

28 Q. Where and how?

166 A. The brick-work is indicated by the pink color on the drawing on the cross-section at the top.

29 Q. Have you in your possession and will you produce the drawing showing the cross-sections of the Beekman vault from which you estimated upon the work?

A. I have, and these are they.

(Drawing offered in evidence and marked "Complainant's Ex. Drawing in Section, from which Mr. French estimated upon the Beekman vault, Dec. 30th, 1884.")

30 Q. Did or did not Mr. Beekman or Mr. Howland suggest to you the device by which the capstone and the roof stones are connected in your device?

A. They did not.

31 Q. Did either Mr. Howland or Mr. Beekman suggest to you the idea of placing the mortise and tenon upon the gable stone and the roof stones?

A. No, sir.

32 Q. Did either of them suggest the idea of using a single gable stone in front or rear?

A. No, sir.

33 Q. Did either of them suggest the idea of using a singe gable stone in both front and rear?

A. No, sir.

34 Q. Did either Mr. Beekman or Mr. Howland suggest the idea to you of using continuous roof stones running from the front to rear?

A. That I cannot say positively.

35 Q. Does or does not the drawing originally submitted to you by Mr. Beekman and Mr. Howland contemplate the running of the roof stones from front to rear of the vault?

A. No, sir.

36 Q. As nearly as you can recollect, when was that idea first put in form?

167 A. Of the beginning of this idea I have no positive recollection, but in submitting my estimate I submitted a price to run the three roof stones to cover the whole vault.

37 Q. Did you submit any other price?

A. I did.

38 Q. What was that?

A. For stopping the roof stones about half way of the length of the vault?

39 Q. When was it that the words "also price and extra for making the three roof stones each 19 feet six inches long that they will cover the whole vault" placed upon "Compl't's Ex. Front and Side External View Beekman's Vault?"

A. The drawings I have submitted are copies of the drawings submitted to me. I wrote the words "also price extra," &c., on these drawings at the time that I sent these copies to the quarry for an estimate.

40 Q. Was this before you gave your price to the Beekmans?

A. Yes, sir.

41 Q. Can you recall whether or not the idea of using continuous roof stones from front to rear of the vault ever was put in words before that time?

A. No, sir.

42 Q. Who was it that conceived the idea of making the gable stones out of a single stone and locking the three stones composing the roof upon them by mortise and tenon?

A. I conceived the idea of locking the two side roof stones to the front gable stone after it had been proposed to omit the joint in the joint in the front gable stones.

43 Q. Who was it that conceived the idea of locking stones together as I have suggested in my last question?

A. I did.

44 Q. Did Mr. Beekman or Mr. Howland suggest the idea to you?

168 A. No, sir.

45 Q. Did any one else suggest it to you?

A. No, sir.

46 Q. Did Mr. Beekman or Mr. Howland ever suggest to you any idea concerning the construction of vaults except those shown in the diagrams in evidence?

A. No; not in any way connected with the roof as ultimately put together.

47 Q. Did Mr. Beekman or Mr. Howland ever suggest to you any idea concerning the construction of vaults except those shown in the diagrams in evidence?

Mr. RANSOM: I object to that as improper. Whether they did or did not make any suggestions should be proven by what they did. This is the witness' conclusion and opinion of what was or was not a fact in that regard from his dealings with Mr. Beekman.

A. No, sir.

48 Q. Do you remember the dimensions given in the questions asked of the witness, William S. White, in his direct examination as pertaining to the different vaults known as the Beekman, the Gould, and the Gilsey vaults?

A. Yes, sir.

49 Q. Do you know whether or not those dimensions are the correct ones as they appear in the vaults themselves?

A. I know that they are correct.

Cross-examination by Mr. RANSOM:

50 X Q. How do you know that those dimensions upon these plans that you have just referred to are correct?

A. Because I had made at my office the diagrams submitted to Mr. White for his estimate, and these diagrams were made from the plans of these vaults referred to as built.

169 51 X Q. Did you make the diagrams from those plans yourself?

A. Not with my own hands.

52 X Q. Who were they made by?

A. By one of my draughtsmen under my direction.

53 X Q. It appears somewhere in this case—I think from your own testimony—that you do not claim to be an expert architect or draughtsman of such structures of this sort or of any other, does it not?

A. I don't recollect.

54 X Q. Well, is not that a fact, that you are not such an expert draughtsman or architect in preparing drawings and plans such as you have just referred to?

A. No, sir.

55 X Q. You are an expert, are you?

A. Well, you ask me if I am not. That is another thing——

56 X Q. You are or you are not, I suppose?

A. Well, if put to the test, I think I could fill the bill a little better than any one I have ever been able to employ.

57 X Q. Have you not already admitted in the testimony in this

case that you were not, in your own judgment, an expert or competent to make plans or drawings or such structures?

A. No, sir.

58 X Q. You do think you are competent?

A. Yes, sir.

59 X Q. Have you ever made any plans for such structures yourself or drawings for them?

A. Parts of them and all of some.

60 X Q. You mean, then, that you never did make a complete working plan or drawing, such as I mean you to understand, and I include in my inquiry as are usually made by draughtsmen. You never made such a complete plan?

A. No, sir.

170 61 X Q. In order to be competent to do that sort of a thing it is necessary that a man should have what is called a technical education in the use of certain draughtmen's tools and being able to make those draughts as they appear here in one of the exhibits that you produced to-day, viz., "Def'ts' Exhibit Front and Side External View of Beekman Vault, as contemplated by the contract of July 13th, 1878." Am I right?

A. Yes, sir.

62 X Q. Did you go over these exhibits that you produced here to-day, plans of the Gould, Gilsey, and Beekman vaults, which the witness White heretofore testified from, and compare the dimensions of the different structures with your own plans?

A. I did.

63 X Q. And you testify, do you, that the dimensions appearing upon these exhibits, within your own personal knowledge, are correct descriptions of the structures actually put up?

A. The sizes are all correct. I purposely omitted the mouldings and ornamentations.

64 X Q. From these plans?

A. From those plans, as not pertinent to this question.

65 X Q. Well, in every other respect they are accurate in description of dimensions and the sizes of the structures actually erected?

A. Yes, sir.

66 X Q. You know that from your own personal knowledge?

A. Yes, sir.

67 X Q. You testified that changes in the plan of the Beekman vault were ordered by somebody, and I don't think you said who. Who was it that ordered them?

A. Mr. Gerard Beekman.

68 X Q. And was that order given in the letter which you have introduced to-day, and was that the order for the change?

171 A. That letter ordered a portion of the change.

69 X Q. And then there were other changes ordered that were not mentioned in that letter?

A. No, sir.

70 X Q. Then the changes that were mentioned in that letter were all the changes that were mentioned in that letter?

A. Yes, sir.

71 X Q. That letter was written to you after the contract had been awarded to you, was it not?

A. Yes, sir.

72 X Q. And who suggested the making of those changes, you or Mr. Beekman?

A. I am quite sure that with the exception of the recessing back of the door and the thickening of the front wall the other changes were entirely made by my advice.

73 X Q. How long were you in the course of negotiation with Mr. Beekman before the contract for the building of this vault was finally awarded to you?

A. Nearly one year.

74 X Q. You had during that time a great many interviews with him on the subject?

A. No, sir.

75 X Q. Did you have more than one?

A. I presume there were two or three.

76 X Q. At those interviews, was Mr. Howland present?

A. I don't think that I met Mr. Howland until just prior to the making of the contract.

77 X Q. You never had any interview with him, then, whilst you were negotiating with Mr. Beekman and talking about the vault?

A. None whatever.

78 X Q. Do you know where Mr. Beekman is now?

A. No, sir.

79 X Q. Is he alive or dead?

A. Mr. Gerard Beekman, I have no doubt, is alive. I saw him within a month on Broadway.

172 80 X Q. Well, before you were awarded the contract for the Beekman vault plans were submitted to you showing its size and mode of construction, were there not?

A. Not as ultimately built.

81 X Q. Well, substantially as ultimately built?

A. No, sir.

82 X Q. You have said that there was in the original idea the intention of having a brick arch in the rear of the vault?

A. Yes, sir.

83 X Q. And that was substantially abandoned?

A. Yes, sir.

84 X Q. Now, is that the change which you mean when you have just said that the plans submitted to you before the contract was awarded were not the plans of the vault as it was substantially built?

A. That is only one of several changes.

85 X Q. Was there any change made in the original idea of the construction of the roof from the time it was first suggested in your conversation with Mr. Beekman to the time that the contract was awarded?

A. Yes, sir.

86 X Q. Then I suppose you mean to be understood as saying

that in the beginning the idea in regard to the roof was not that the stones should be fastened in their place by a lug and tenon?

A. The plans showed a——

87 X Q. (Interrupting). The original idea I mean.

A. None on the gable stones.

88 X Q. And was this cannon-ball joint suggested by Mr. Beekman in the beginning of your interview with him to be on the gable stones and sustain the roof stone or not?

A. No, sir; this cannon-ball joint was to be on the ground, with the side stone resting on it.

173 89 X Q. And nothing whatever to do then (that joint had not) with the roof stones as it rested on the gable stones?

A. No, sir.

90 X Q. Then at the time you had this interview, when this little card diagram was made by Mr. Beekman and by yourself, and which is marked "Comp't's Ex. Beekman and French Sketch Number 2, Dec. 30th, 1884," nothing was said between you and Mr. Beekman as to how the roof stones of the vault were to be held in their place?

A. No, sir.

91 X Q. There was not?

A. No, sir.

92 X Q. And the diagram A upon that exhibit, made by Mr. Beekman at that time, showing the cannon-ball joint, was not made by him with reference to the roof at all?

A. I don't think it had any particular reference to the roof.

93 X Q. It referred entirely to his notion of some device at the ground or very base of the structure to protect the structure in some way, did it not?

A. Well, the idea was that this vault would be entirely covered by a side hill, and that the slabs which were at their base to rest on the movable cannon-ball joint were to be out of ground.

94 X Q. The cannon ball would have served, if it had been used, as a "lug," as we have termed such a structure, would it not?

A. Yes, sir.

85 X Q. By that I understand that a lug is a piece of stone or a piece of iron or any other substance which fastens or holds the two stones together?

A. Yes, sir.

96 X Q. Now, that cannon ball would have served, if it had been used as a lug, to have held the stone in its place?

A. As a secondary value in this connection.

174 97 X Q. (96 X Q. repeated.)

A. Not primarily.

98 X Q. Now, what object is there in using the cannon ball at all if it is not for the purpose of serving as a lug?

A. The idea was to have a movable or swinging joint, whereas a lug is used for a fixed joint.

99 X Q. That is the only difference that you see, is it not?

A. Yes, sir.

100 X Q. The cannon ball was intended to serve also as a binder

to hold the stone resting upon it in its place, was it not—to keep it from slipping off, I mean, or becoming displaced?

A. No, sir.

101 X Q. It was not?

A. No, sir.

102 X Q. Would not the use of a ball result in holding the stone that rested on it in its place?

A. Well, partially so.

103 X Q. The loose joint was intended to give it an opportunity to move, was it not, because the frost would make it move?

A. Yes, sir.

104 X Q. Then if the frost did move the stone, the expectation was that the cannon ball would operate at what is called a swinging joint?

A. Yes, sir.

105 X Q. And at the same time it would hold the stone resting upon it in its place, and if it raised it would fall back?

A. Yes, sir; at its base.

106 X Q. Now, won't you tell me how it was at that time—I mean when this little diagram which was made by Mr. Beekman and marked "Complainant's Ex. Beekman and French Sketch No. 2" was made—that you, in connection with his diagram of a base for this vault, made a sketch which appears on here as "C" of the roof of that vault?

A. My sketch was made as an idea to avoid the use of a brick arch.

175 107 X Q. You and he were discussing at that time the base of this vault and the use of this cannon-ball joint at that point which was entirely disconnected, you say, and I believe it, from the roof?

A. Yes, sir; certainly.

108 X Q. Now, won't you tell me why it was that you immediately began to sketch a roof instead of directing your attention to the base and to the cannon-ball joint?

A. Mr. Beekman proposed that the vault would be almost entirely covered by its being placed in the side of a hill, and his method of using the slab on a cannon-ball joint was to cover that part of a structure which was exposed to view.

109 X Q. (108 X Q. repeated.)

A. Because I saw no value whatever to his method of holding the slabs against a vault.

110 X Q. And so you made sketch C, showing the roof of a vault as an improvement on his plan. Is that what you mean?

A. No, sir; but as a method of protecting vaults.

111 X Q. At that time it was not intended that this vault should be covered with anything but earth, as I have understood you. Am I right?

A. Yes, sir.

112 X Q. And how right am I?

A. A small portion of it only was expected to project beyond the grade of the hill.

113 X Q. Now, was it your idea that the sketch C on that card of the roof of the vault was a better way to accomplish what Mr. Beekman was endeavoring to accomplish with his cannon-ball joint?

A. No, sir.

114 X Q. Was that your idea of a better way to protect a vault?

A. Yes, sir.

115 X Q. And didn't your sketch C, if adopted, do away entirely with the use of the earth for a covering for the vault, and give it instead a covering of granite?

176 A. No, sir; the earth was only expected to hide from view a brick arch, which has never been exposed to the weather, to my recollection.

116 X Q. Mr. Beekman wanted to protect his structure as a structure from the frost by this cannon-ball joint, didn't he?

A. No, sir; he wished to accommodate the frost, considering it indispensable.

117 X Q. Then you object to my use of the words "protection against the effects of the frost," and you adopt your own, "to accommodate the frost?"

A. Yes, sir; he thought it was unavoidable to have the frost move that vault.

118 X Q. Now, you don't mean to be understood that your sketch C was intended to represent the roof of that or any other vault?

A. Yes, sir; I do; because all vaults built in the way that he described must necessarily project out of the ground.

119 X Q. And your idea of sketch C upon that exhibit of the roof was that such a roof to a vault would "accommodate" (using your own words) the frost which Mr. Beekman and you believed must affect the structure?

A. No, sir; my idea was that my sketch would prevent the frost affecting the structure.

120 X Q. Then you did not intend by that sketch to accommodate Jack Frost at all?

A. No, sir.

121 X Q. But you were going to overcome him. Is that it?

A. Yes, sir; to defeat him.

122 X Q. Then your sketch C of the roof was your plan of improvement upon Mr. Beekman's sketch of the cannon-ball joint, and instead of accommodating the frost, as he proposed to do, by your sketch and plans you believed that you would defy it?

A. Yes, sir.

177 123 X Q. When the plans of the vault that the contract was made to include were given to you by Mr. Beekman were they those originally introduced by the defendant and marked Defendants' Exhibit Original Drawing of Two Sections of Beekman Vault Delivered to Complainant from which he constructed said vault?

A. They were the same, except the words written on the part colored red: "Leave out the arch and let the roof stones run back over the catacombs in full length in one piece." Those words had not

been put on the plans, and also the words "these stones to run in one piece to the back wall of the catacombs, say 19 feet six inches," had not been put on.

124 X Q. Who put those words on this exhibit?

A. I don't know.

125 X Q. They were put on by you or somebody in your employ, were they not?

A. No, sir; that was in Howland's plan. Those words were put on when the contract was made.

126 X Q. Now, did you furnish to Mr. Beekman in any form any suggestion, plan, direction, or description of the roof, as shown by "Defendants' Exhibit Original Drawing of Two Sections of Beekman Vault Delivered to Complainant, from which he constructed said vault," before that plan was actually made and submitted to you?

A. Yes, sir.

127 X Q. Describe the suggestion, the description, or the plan which you so furnished.

A. My diagram marked C on "Complainant's Exhibit Beekman and French Sketch No. 2" was made several months prior to the plans having been submitted to me.

128 X Q. That was the only suggestion or plan or description of such a roof that you made to Mr. Beekman, was it not, viz., your diagram C upon that last exhibit?

A. I am not fully prepared to say that it was the only one.

178 129 X Q. What is your best recollection at present?

A. Mr. Beekman showed me a small sketch with the three roof stones and the front of the vault appearing much as it is now some four or five months after I had made the diagram C. His sketch did not indicate in any way that the centre stone was to lap over the side roof stones. I am under the impression that I informed him that it would be necessary to run the side stones underneath the centre stone, and on his objecting that it would destroy the artistic effect of the front I think I advised that the centre stone need not be checked out clear to the front, but by running the side stones underneath up to within six or eight inches of the front line the effect, as shown in his sketch, would be preserved.

130 X Q. Now, is that your recollection of such suggestions or descriptions or plans of this roof as were given by you to Mr. Beekman?

A. Yes, sir.

131 X Q. Your sketch C upon "Compl't's Ex. Beekman and French Sketch No. 2 of this date does not show, does it, any tenon or lug?

A. No, sir.

132 X Q. And that was made at the time and during the course of the conversation which you recollect then having with Mr. Beekman in regard to the effect of the frost upon the structure?

A. Yes, sir.

133 X Q. And your notion at that time was that you could lap the stones one over the other, as you have attempted by diagram C,

so as to defy the effect of the frost and thereby improve over his cannon-ball joint?

A. Yes, sir; in connection with a coping stone which was to rest on top of the ends of the roof slabs, as shown in my diagram C.

134 X Q. There was nothing said at that time between you and Mr. Beekman in regard to the roof being of two stones or three continuous stones?

179 A. Well, of three stones on its width, but not as to running the full length of the vault.

135 X Q. At that time it was of very little consequence how the roof itself was constructed, so far as the granite was concerned, because it was supposed to be largely of a brick arch and to be covered with earth, as I understand you?

A. That was Mr. Beekman's idea.

136 X Q. Now, when you made this little sketch C, which is upon "Compl't's Exhibit Beekman and French Exhibit No. 2," of this date, had you ever seen a diagram or plans of the Billaud vault?

A. No, sir.

137 X Q. Is it not a fact, Mr. French, that that little sketch C is a pretty fair rough representation of the sketch of the roof of the Billaud vault?

A. No, sir; not at all like it.

138 X Q. Before the plans were taken to you for the Beekman vault and for which you made your estimates on which the contract was awarded did you have any conversation with Mr. Howland in respect of them and go over them with him?

A. I am quite sure I did not.

139 X Q. Did you know at that time that Mr. Howland was a confidential employé or agent of Mr. Beekman?

A. No, sir; I think I never saw Mr. Howland until that contract was signed.

140 X Q. You knew at the time and before the contract was made that Mr. Howland was in some capacity or another associated with Mr. Beekman, did you not?

A. No, sir.

141 X Q. You never had known that there was such a man until the contract was signed. Is that what you mean?

A. Except that there was some person who made the very incomplete plans submitted to me. I was not aware of there being a Mr. Howland.

180 142 X Q. When you say "very incomplete" are those the plans which you produced to-day and marked as exhibits?

A. Yes, sir.

143 X Q. Are those the plans which you made the vault from?

A. No, sir.

144 X Q. Where are the plans which you made the vault from? I understood you to say that these were the ones.

A. Those are the ones I made the contract from.

145 X Q. Are there any plans in existence showing just exactly the way that that vault was constructed?

A. Yes, sir.

146 X Q. Have you ever produced them here in this case?
A. No, sir.
147 X Q. Have you got them?
A. Yes, sir.
148 X Q. Who made those plans?
A. They were made at my office by one of my draughtsmen?
149 X Q. From what data?
A. From all these plans.
150 X Q. You mean from these plans which were furnished to you by Mr. Beekman and made by Mr. Howland?
A. Well, I don't say that.
151 X Q. You understood them to be made by Mr. Howland?
A. I lately understood so.
152 X Q. The plans which you have not produced and from which the Beekman vault was actually constructed were made at your office from the plans that Mr. Beekman furnished to you, which you have introduced in evidence to-day and which are marked "Compl't's Exhibit Drawings from which Mr. French Estimated upon the Beekman Vault," and "Compl't's Exhibit Front and
181 Side External View of Beekman Vault, as contemplated by the contract of July 13th, 1878?"
A. Yes, sir; the plans which I made were working drawings.
153 X Q. Were they in any essential respect different from the plans furnished you by Mr. Beekman, and which have just been described as the two exhibits?
A. Yes, sir.
154 X Q. And were those differences suggested by you or by Mr. Beekman?
A. Principally suggested by me.
155 X Q. And in what respect do those plans differ from these two exhibits which were furnished by Mr. Beekman to you?
A. First, the continuing of the top course of granite wall all around under the roof stones. Second, a granite floor in place of the slate tiling. These two changes were made entirely at my solicitation and by my advice. Third, making the front wall six inches thicker and cutting back the door recesses. These changes were the ideas of Mr. Beekman. Fourth, in enlarging the stones to avoid vertical joints on the front. This change, I am not certain as to whether I originated the idea or not.
156 X Q. Well, in the respects you have just mentioned, the plans given to you by Mr. Beekman, and which have been referred to in this connection as the two exhibits introduced by you to-day, the actual working plans from which the vault was constructed were changed; that is what you mean, is it not?
A. Yes, sir.
157 X Q. Now, if there was any other you may state it, if you please.
A. In the plans?
158 X Q. Any other change between the plans given to you by Mr. Beekman, and from which you made the working plans and constructed the vault?

A. My plans were also different from the plans furnished
182 by Mr. Beekman in that my plans called for tenons on the rear gable stone, as indicated in my letters patent.

159 X Q. Well, when you say "tenons" you use that word as convertible with the word "lug," do you not?

A. Yes, sir.

160 X Q. Now, is it not a fact that the tenon which you speak of, or lug, is as shown upon the drawings made by Mr. Howland, which is in this case as Defendants' "Exhibit Original Drawing of Two Sections of Beekman Vault, delivered to complainant from which he constructed said vault?"

A. His plans only show a tenon on the side walls.

161 X Q. Is not that tenon shown on the gable on his plans?

A. No, sir.

162 X Q. Is the tenon he shows the tenon shown on the letters patent?

A. No, sir.

163 X Q. The difference is that the tenon in the letters patent is on the gable and his tenon is on the side walls, is that it?

A. Yes, sir.

164 X Q. And that is the only difference?

A. Oh, no.

165 X Q. The only difference in respect of the tenon, is it not?

A. It is, of the tenon.

166 X Q. The position of the tenons on the letters patent is on the gable stone; is that right?

A. Yes, sir.

167 X Q. And the position of the tenons upon the exhibit just referred to is upon the side walls?

A. Yes, sir.

168 X Q. And that is the only difference, is it not, so far as the tenon is concerned?

A. Yes, sir.

169 X Q. Now, then, the tenon on the side wall was suggested by Mr. Beekman, was it not, and changed by you from the side wall to the gable stone?

183 A. I don't know whether he suggested the use of a tenon or not.

170 X Q. Well, is it your impression, or is it not, that he suggested the tenon on the side wall, and that you changed that from the side wall to the gable stone?

A. I don't know whether he ever suggested the tenon or not. His plans show the tenon on the side wall.

171 X Q. That he submitted to you?

A. That he submitted to me.

172 X Q. And it was from those plans that you made the working plans from which the vault was made?

A. Yes, sir.

173 X Q. Now, will you swear that in your negotiation for this vault and in your conversations with him he did not suggest the tenons on the side wall?

A. No, sir.

174 X Q. And the most you can say is you don't remember whether he did or not?

A. My doubt is as to whether I suggested that or not; I am not clear about it.

175 X Q. You are not clear in your own mind whether you suggested the tenon or not?

A. No, sir.

176 X Q. Well, when you changed the plans submitted by him to you and showed the tenons of the gable stone at the rear, did you get that suggestion from him from some conversation which you had with him?

A. No, sir; because I am firmly of the impression that up to this day that Mr. Beekman don't know that the tenon exists on the front and rear gable stones.

177 X Q. Didn't you and he have some discussion on the working plan?

A. No, sir.

178 X Q. Never at all?

A. No, sir.

184 179 X Q. Well, this plan of Mr. Beekman's which he gave you, showing the roof stone and the tenon on the side wall, was a continuous roof stone, was it not, from front to rear of the structure?

A. No, sir.

180 X Q. At that time it was not expected that the roof would be covered by a continuous stone; it was only to be covered part way to the brick arch?

A. Yes, sir.

181 X Q. Did you have any talk with Mr. Beekman in regard to what use and purpose that tenon which he had depicted in his plan upon the side wall?

A. I think that I did.

182 X Q. Did you approve of it as a means of holding the roof stone in its place?

A. At the time I think that I considered it of some value.

182½ X Q. Now, you subsequently became of the opinion that that same tenon, if it was put on the gable stone, would serve the purpose better, did you?

A. In making my working drawings I discovered that should the side roof stones once start from their place the wall stones of the side which had the tenon would probably be displaced, and in that event those tenons had no value to secure the vault from the action of the frost.

183 X Q. Now, then, why couldn't you have answered my question yes as well as have gone into that operation of your mind? I understand you to say really by that answer yes to my question, namely, that after he had shown you the tenon on the side wall and talked to you about its purpose and object, that you subsequently came to the belief and opinion that that tenon upon

the gable stone would be more valuable and better than upon the side wall?

A. Yes, sir.

185 184 X Q. Did Mr. Beekman's plan that he gave to you on which you made the working plans show the capstone of the roof of this vault lapping over the two side roof stones?

A. Yes, sir.

185 X Q. And you adopted that plan, as I understand you? You made no change in respect of that and built the vault accordingly?

A. Yes, sir.

186 X Q. Was it after the contract had been made for the building of this Beekman vault that Mr. Beekman changed his mind and abandoned the brick arch and elected to have the continuous roof stone?

A. No, sir.

187 X Q. It was before the contract was made that he adopted that plan. Is that what you mean?

A. Yes, sir.

188 X Q. And you carried that plan out in building the vault?

A. Yes, sir.

189 X Q. What is your recollection as to who suggested the roof of a continuous roof stone, you or Mr. Beekman?

A. I cannot state that point.

190 X Q. You don't remember?

A. No, sir.

Redirect examination by Mr. FLETCHER:

191 Re-D. Q. Was there not a tenon on the front gable stones in the structure of the Beekman vault as erected?

A. There were two.

192 Re-D. Q. What was the shape of the tenon on the side wall of the proposed Beekman structure upon which estimates were made?

A. There is nothing to show what its length is.

193 Re-D. Q. I understand you to say upon your cross-
186 examination that you were unable to state whether you originated the idea of having one gable stone instead of three. Is that correct or not? If not correct, what is the fact?

A. The plans show the front gable to be made in three pieces. I do not recollect whether the joints in that stone were omitted entirely by my advice, but I am under the impression that it was.

194 Re-D. Q. To what did you refer by your answer to the 155th cross-question in which you stated "enlarging the stones to avoid vertical joints on the front," if you did not refer to the gable stones?

A. I referred to the omission of the vertical joints in the front of the building in the wall as well as the gable stone.

195 Re-D. Q. In the 193d redirect question I assumed that you had stated that you were unable to say whether you originated the idea of having one gable stone instead of three. Is that correct or incorrect? And please state what the facts are.

A. I am quite positive that the omission of the vertical joints in the gable stone was made by my advice.

196 Re-D. Q. Have you any doubt whatever about who originated the idea of using the gable stones for the purpose of tying the side roof stones together?

Mr. RAMSON: That is objected to as leading.

A. Not at all.

197 Re-D. Q. Who did?

A. I did.

198 Re-D. Q. Have you anything further to say upon the subject of the mortises and tenons upon further reflection and upon further examination of "Complainant's Exhibit Drawing from which French Estimated upon the Beekman Vault?" If so, please state it.

A. I am satisfied that the tenon indicated on those drawings was original with me and was not shown on the plans submitted to me by Mr. Beekman.

187 199 Re-D. Q. What makes you satisfied of that?

A. The Beekman drawings were traced or copied at my office by one of my employees, and these tracings were made with the usual drawing pen. The lines indicating the tenon are made with the writing pen, and I am satisfied that I made them at the same time that I wrote on the plans the words "underside of roof cut as it makes the ceiling."

Recross-examination by Mr. RANSOM:

200 Re-X Q. Is this paper which you have just handed to me a fac-simile of the exhibit which was put in by you the other day, and to which you refer in your last answer to the last direct question?

A. I believe it to be so.

201 Re-X Q. What is the name of the man who made this plan—your employé?

A. I think his name was Joseph White.

202 Re-X Q. Where is he now?

A. I cannot tell.

203 Re-X Q. I understood you to say it was your opinion or that you were satisfied that you made the lines which indicate the tenon or gable stone upon this exhibit yourself with a writing pen. Is that so?

A. Yes, sir.

204 Re-X Q. Now, is your opinion in that regard based upon any present recollection of having done so?

A. Yes, sir.

205 Re-X Q. Well, what is there to enable you to recollect presently the fact that you did with your own hand and with a writing pen make the lines which represent the tenon upon the gable stone?

A. From the fact that all of the black lines on that drawing were made by a ruling pen and these are straight and true, while the lines showing the tenon are evidently irregular and not a

188 tracing of anything underneath. I have been able to recollect the fact that I was impressed at the time with the danger

of the side stone sliding off, and sketched on that tenon before sending the plan to the quarry for estimate. This is one of several other directions which I placed on this drawing to enable the quarryman to give me a price which would include all the necessary cutting of the granite.

206 Re-X Q. Does this tenon, which you say has been represented by you in this rough way, not being traced from anything underneath, as you express it in your opinion, appear referred to upon the plan which was sent by you to the quarry, and which you have already put in as an exhibit, as of any specified dimensions or size?

A. It is not.

207 Re-X Q. That being the fact, a quarryman could not give you any estimate as to the cost of cutting the stone with a tenon shown upon it, could he?

A. Yes, sir.

208 Re-X Q. Do I understand you to say that you are certain that the plan which was prepared for you to make your estimate upon by Mr. Beekman, when it was delivered to you, did not show any device equivalent to this tenon or the tenon itself for the purpose of holding the roof stone from slipping. Do you say that positively?

A. Yes, sir.

209 Re-X Q. Are you also positive that before the plans were given to you by Mr. Beekman to make your estimate that you had no conversation with him at all in regard to the tenon or some equivalent device for the purpose of holding the roof stones from slipping?

A. Yes, sir.

210 Re-X Q. You are positive that there was nothing said about it?

A. Yes, sir; I am positive about it.

211 Re-X Q. You are then certain, then, I take it, that up
189 to the time the plans from Mr. Beekman had been talked about and finally prepared by him and submitted to you for the purpose of your making an estimate that you yourself had not thought about any device or tenon or other plan or way of holding the roof stone from slipping?

A. I am not sure but that I have.

212 Re-X Q. Well, have you any recollection at all at present that you had?

A. Not in any particular case.

213 Re-X Q. Do you or not now remember that that subject, viz., the holding of the roof stone from slipping, entered into your perceptions or thoughts prior to the time that these plans from Mr. Beekman were delivered to you?

A. I do.

214 Re-X Q. Did you think of that plan or that way of holding a roof stone from slipping prior to the time that he delivered the plans to you?

A. I did.

215 Re-X Q. And how long prior to the time that the plans from

Mr. Beekman were delivered to you was it that you thought about this plan or way of holding the roof stone from slipping?

A. Three or four months.

216 Re-X Q. You had several conversations with Mr. Beekman, as I understood you to say, in regard to his plan of this structure and the way it should be put together?

A. Not as to the way it should be put together.

217 Re-X Q. Then you did as to the plan of it, did you?

A. I cannot answer that question yes or no.

218 Re-X Q. Why cannot you answer that question yes or no—either that you did have a conversation with him about the plan of the structure or that you did not?

A. As I have already testified, Mr. Beekman showed me a small sketch of a front of a vault. This sketch was the only drawing of any kind that I saw prepared under Mr. Beekman's direction
190 until the plans were given to me for estimate, and except that, as I have already testified, I called his attention to the fact that the side roof stones would have to run into and underneath a portion of the centre stone, which in his sketch was not shown. I think I had no other conversation with him regarding the construction or preparation of his plans as submitted to me for estimate.

219 Re-X Q. Then you mean to say this, that between the time he made the sketch you have just referred to and the time that he submitted the plans which you estimated from you had but this one conversation which you have just detailed, and that was in regard to the roof stones? Is that what you mean?

A. Yes, sir.

220 Re-X Q. Now, then, to the extent of that conversation you did discuss with him, before his plans were submitted, the plan of this structure, viz., in respect of the roof stone, as you have already testified?

A. Yes, sir.

221 Re-X Q. Now, will you tell me why it was that having finished this plan, device, or way of holding this roof stone from slipping in your perceptions and thoughts before his plans were submitted to you, and having had a conversation, which you just now admit you did have, with him in regard to the roof stones before his plans were submitted, that you did not suggest to him your notion or idea of the way of holding that roof stone from slipping?

A. I considered at that time, as I have frequently done in some cases, that my methods of construction were my capital, and am always governed by the desire to preserve my ideas until the contract has been awarded to me.

222 Re-X Q. You did not regard the statement by you to Mr. Beekman of this device for holding the roof stone from slipping as an expedient bit of information for you to give to him or as any inducement to him to award you the contract?

191 A. No, sir.

223 Re-X Q. And then you did have it in your mind at the time you were talking with him, but you suppressed it from

him for the reasons that you have just given. Is that what you mean?

A. No, sir.

224 Re-X. Well, what do you mean?

A. I don't mean that I had it in my mind, but I mean that I did not call his attention to the fact, but I knew that I was actuated by a desire to get a secure roof, and my memory is refreshed on this point from the fact that three or four months previous to my seeing his draft I had prepared and submitted to him a design of a vault in which the roof stones ran clear across the structure and were put together in such a way that there were no vertical joints.

225 Re-X Q. And you have remembered this fact, then, since you testified the other day, have you not?

A. Not as regards the having prepared plans before.

226 Re-X Q. Did you testify before that you had ever given him any plans of this vault roof except the little sketch C, I think it is, that you made on the card?

A. No, sir.

227 Re-X Q. You did not so testify?

A. No, sir.

228 Re-X Q. Have you got a copy of the plan that you submitted to him?

A. Yes, sir.

229 Re-X Q. Have you ever produced it in this case?

A. No, sir.

230 Re-X Q. You have a copy, then, you say, of the plan which you had prepared some three months prior to the time you mentioned in your last answer or two preceding. You are positive about that, that you have got that copy?

A. Yes, sir; I have no question about it.

192 231 Re-X Q. Why haven't you produced it?

A. Because I have not been asked to.

232 Re-X Q. Did you ever tell Mr. Fletcher, your counsel, that you had such a plan?

A. Yes, sir; and I showed them to him, and also a letter-press copy of a letter submitting them to Mr. Beekman.

233 Re-X Q. Now, I was asking you a little while ago for the purpose of getting at the fact in respect of your calling Mr. Beekman's attention to this device for holding the roof stone in its place, and I understood you to say you did not tell him, although you at the time had that plan or device in your mind. Am I right about that?

A. I cannot say that I had that device in my mind.

234 Re-X Q. Have you already testified to me within the last ten minutes that you did not tell Mr. Beekman of that plan at that time because you regarded it as your own capital and you did not care to give up to persons with whom you were about contracting your own plans and devices until the contract was secured? Did you so testify in substance?

A. Yes, sir.

235 Re-X Q. That was true, was it not, when you so testified? You testified to what was true, of course?

A. Yes, sir.

236 Re-X Q. Then, so far as you were concerned, up to the time that Mr. Beekman gave to you his plans for this vault and upon which you made your estimate you never gave him any information or intimation or hint of your plan for holding that roof stone in its place by this tenon?

A. No, sir.

237 Re-X Q. And the reason you did not was because the contract had not yet been awarded and you did not care to give away your own ideas. Is that so?

A. Probably it was, sir.

193 238 Re-X Q. "Probably." You won't say it was or it was not so?

A. Well, I am quite certain it was so.

239 Re-X Q. Did the same man who made the plan which you referred to as being in evidence as an exhibit and of which the tracing I hold in my hand, you say, is the fac-simile make the tracing which I hold in my hand?

A. Yes, sir.

240 Re-X Q. And upon that exhibit, as upon this paper which I hold in my hand, the same lines appear in the same way of the tenon. Is that what you say?

A. The lines appear, but are not exactly the same on both of those drawings.

241 Re-X Q. In what respect are they different?

A. The variation by placing one over the other will show that they could not have been traced from a plan underneath. The lines showing the tenons could not be traced.

242 Re-X Q. I now call your attention to "Defendants' Exhibit Original Drawing of Two Sections of Beekman Vault Delivered to Complainant, from which he constructed said vault," and ask you to look at it and say whether or not it is a perfect copy of the tracing which I have been holding in my hand and which you have said is a copy of the exhibit which was put in the other day.

A. No, sir; it is not.

243 Re-X Q. In what respect is it different?

A. The first drawing—that is, the one prepared by Mr. Beekman, which you have shown me—has been changed since the tracings I have submitted were made, and very materially so.

244 Re-X Q. Now I repeat the question and ask you to state in what respect the paper which I have in my hand, which you have said was a copy of the plans which Mr. Beekman had submitted to you, is different from the "Defendants' Exhibit Original

194 Drawing of Two Sections of Beekman Vault Delivered to Complainant, from which he constructed said vault."

A. The tracings which I have submitted show on the half plan a brick arch and on my plan that part of the drawing which shows the brick arch has no other lines. The original Beekman plans show lines indicating a roof stone drawn over the part originally

indicating a brick arch. The original Beekman plans show that that portion of the sides underneath the side roof stone has been altered since they were made. The line drawn parallel with the top line of this side roof stone has been erased across the space where the lines indicate a tenon to be made. This change and these lines indicating a tenon have been made since the drawing was originally submitted to me for an estimate.

245 Re-X Q. Now, do you mean to swear positively that when this plan from Mr. Beekman, which is an exhibit in this case, marked "Defendants' Exhibit Original Drawing of Two Sections of Beekman Vault Delivered to Complainant, from which he constructed said vault," that when that was delivered to you for the purpose of your making your estimate that it did not show the lines which indicate a tenon upon the gable stone for the purpose of holding the roof stones in their place and from slipping?

A. They did not.

246 Re-X Q. That you are positive of?

A. Yes, sir.

247 Re-X Q. Will you tell me how it is that you are able to say positively that that is so?

A. The two tracings which I have submitted were made faithfully and carefully from the original Beekman drawing, and those drawings show no tenon whatever except, as I have already testified, where the lines were drawn by me to indicate a tenon and which lines do not correspond with the lines on the Beekman drawing calling for a tenon.

195 248 Re-X Q. Then your only means of certainty in respect of my inquiry is your assumption of argument that it could not have had lines showing a tenon because your tracings, which were made from the plans submitted, do not show such a tenon.

A. I know that they did not have the lines showing a tenon on when originally submitted.

249 Re-X Q. Will you be good enough to answer my question, which is, "Then your only means of certainty in respect of my inquiry is your assumption or argument that it could not have had lines showing a tenon because your tracings, which were made from the plan submitted, do not show such a tenon?

A. I do remember it apart from the drawings.

250 Re-X Q. And are you able to give me any fact or circumstance which aids you to remember, independent of the drawing itself, that fact?

A. Yes, sir.

251 Re-X Q. Give me one or more as you may remember them.

A. I remember noticing the weak point of the drawing in that there was nothing to keep the roof stone from sliding from its place. I remember sketching or drawing the lines on my tracings showing a tenon, and I also remember that after Mr. Beekman had informed me that the contract would be given to me that it would be necessary to have a tenon there to keep the roof stones in their place.

252 Re-X Q. You remember telling him that?

A. Yes, sir; I do.

253 Re-X Q. Where was it and who was present?

A. I cannot say who was present, but it was doubtless at his office.

254 Re-X Q. You can remember the fact of telling him, but you cannot remember when it was or where it was or who was present?

A. Yes, sir; I am positive that it was at his office.

196 255 Re-X Q. Why are you positive it was there; why may it not have been at your office?

A. Because Mr. Beekman did not come to my office.

256 Re-X Q. Didn't he ever come there?

A. I think not.

257 Re-X Q. Well, now, I want you to tell me, if you can, who it was that suggested a change in this plan of Mr. Beekman's, which has been put on here as "defendants' original drawing of two sections of Beekman vault delivered to complainant, from which he constructed said vault"—who it was that suggested the change in that plan which you say has been made, which shows lines indicating a tenon on the gable stones to hold the roof stone from slipping?

A. I did.

258 Re-X Q. And that change was made on that plan at your suggestion?

A. Yes, sir.

259 Re-X Q. And was that change made in that way on your suggestion after you had made the tracings from this plan which you have already testified about?

A. Yes, sir.

260 Re-X Q. And to whom did you make that suggestion of that change?

A. To Mr. Beekman.

261 Re-X Q. Do you remember when it was and where it was that you made that suggestion?

A. I remember it was at his office.

262 Re-X Q. Where?

A. In Liberty street, where the real-estate exchange is now.

263 Re-X Q. When was it?

A. Immediately preceding the making of the contract.

264 Re-X Q. It was before the contract was awarded to you?

A. Yes, sir.

197 265 Re-X Q. Then before the contract was awarded to you you did give him information of this plan of holding the roof stones?

A. No, sir; it was between the time of the awarding of the contract and before the contract was signed.

266 Re-X Q. It was after he told you you should have the contract?

A. Yes, sir.

267 Re-X Q. But before the written paper was actually executed?

A. Yes, sir.

268 Re-X Q. Do you know who was present at the time you made that suggestion and made this alteration of the plan accordingly?

A. No, sir.

269 Re-X Q. Do you know that that alteration was made in your presence?

A. No, sir.

270 Re-X Q. Well, was it or was — not made in your presence, if you remember anything about it?

A. As I have testified, Mr. Beekman's ante-chamber was separate from his office. In his inner office——

271 Re-X Q. (270 Re-X Q. repeated.)

A. I think it was not.

272 Re-X Q. Well, you are not positive whether it was or was not?

A. No, sir.

273 Re-X Q. Are you very clear in your recollection that you went over the subject with Mr. Beekman and talked about these tenons and their use at that time?

A. I explained to Mr. Beekman the necessity and the use of a tenon in this place.

274 Re-X Q. Had this plan, "Def'ts' Exhibit Original Drawing of Two Sections of Beekman Vault Delivered to Complainant, from which he constructed said vault," which we have been referring to, been delivered to your possession by Mr. Beekman, from
198 which you had made the tracings you speak of before this conversation that you have just related?

A. Yes, sir.

275 Re-X Q. Was there ever any duplicate of this "Defendants' Exhibit Original Drawing of Two Sections of Beekman Vault Delivered to Complainant, from which he constructed said vault?"

A. Only such copies as I have submitted that were made by me.

276 Re-X Q. There was no duplicate made by Mr. Beekman?

A. Not to my knowledge.

277 Re-X Q. Not to your knowledge?

A. No, sir.

278 Re-X Q. This was the only one he ever gave to you or ever had; is that so?

A. There was another drawing showing the other sides.

279 Re-X Q. I am asking about this exhibit, "Defendants' Exhibit Original Drawing of Two Sections of Beekman Vault Delivered to Complainant, from which he constructed said vault;" any duplicate of that?

A. Not to my knowledge.

280 Re-X Q. When you had this conversation with Mr. Beekman did you carry this plan of his, "Def'ts' Exhibit Original Drawing of Two Sections of Beekman Vault Delivered to Complainant, from which he constructed said vault," to him and point out the necessity for these tenons?

A. He already had it in his possession.

281 Re-X Q. I was mistaken in my understanding. You already had this plan and had made these tracings before this conversation?

A. No, sir; I had it in my possession for a short time, during which time I made the tracing.

282 Re-X Q. And you returned it to him?

A. Yes, sir; I returned it to him and subsequently submitted my estimate.

199 283 Re-X Q. And then had the talk which you have just referred to in which you talked about the tenons?

A. Yes, sir.

284 Re-X Q. Now, this plan of Beekman's, which is "Def'ts' Exhibit Original Drawing of Two Sections of Beekman Vault Delivered to Complainant, from which he constructed said vault," is drawn upon a scale, is it not?

A. Yes, sir; it is.

285 Re-X Q. I want you now to look at this plan and say whether or not the lines which represent the tenons thereon apparently are drawn after that same scale and in just harmony, symmetry, and proportion to the balance of the structure, as shown on that plan.

A. Yes, sir.

286 Re-X Q. Where did Mr. Beekman or anybody else who prepared those lines showing those tenons get the dimensions of those tenons?

A. From me.

287 Re-X Q. You remember that, do you?

A. Yes, sir.

288 Re-X Q. Do you remember what you told Mr. Beekman upon that subject? And, if you do, please state it.

A. I remember that I told him that to prevent that slipping of the stones we would have a tenon on the side, and I think I drew in light pencil lines on his drawing about the size that I thought they would be.

289 Re-X Q. You don't see any indications of those pencil lines yourself on those plans now, do you?

A. No, sir.

290 Re-X Q. When you made the little sketch C upon the back of one of your cards, which you have introduced in evidence heretofore, why was it you did not then indicate in the same way the tenon and talk over the matter with Mr. Beekman?

200 A. Because my only object was to show how the vault could be covered, not as to how the covering was to be secured.

291 Re-X Q. Then, finally, you mean to say positively that there never was a suggestion from Mr. Beekman to you in all your talks of this device of a tenon for holding these stones from slipping; there never was any such suggestion from him to you?

A. No, sir.

292 Re-X Q. Now, I want to call your attention to this plan of Beekman's called "Def'ts' Exhibit Original Drawing of Two Sections of Beekman Vault Delivered to Complainant, from which he constructed said vault," and ask you if when it was submitted to you first it did show, as it now appears, the capstone of the roof of the vault lapping over the two side roof stones of the vault.

A. It showed only the middle stone lapping over one side roof stone.

293 Re-X Q. That is, as you hold the exhibit before you that would be the left-hand side of the figure?

A. Yes, sir.

294 Re-X Q. The right-hand side of the figure shows what was the original intention, viz., the brick arch?

A. Yes, sir.

295 Re-X Q. That having been abandoned, some black lines have been added to the figure which represents a roof stone upon that side?

A. Yes, sir.

296 Re-X Q. The same as on the other side?

A. Yes, sir.

297 Re-X Q. Then Mr. Beekman's plan which he gave to you represented the roof of the vault precisely as you claim to have invented it, with the exception of the tenon, does it not?

A. No, sir.

298 Re-X Q. In what respect does it differ?

A. The roof, as shown on his plans, while composed of
201 three pieces, was to rest on brick for one-half of its length and at the rear end, and had no device or tenons to hold them in their places, either at the front or at the rear.

299 Re-X Q. What I mean is this: There is no difference, is there, between the roof as you claim to have invented it and the section of the roof as shown on the left hand of the figure in his Exhibit Original Drawing for the construction of the Beekman vault except the tenon?

A. No, sir.

300 Re-X Q. Will you have marked now the copy of the tracing which you made and which you put in evidence the other day, and which you have been testifying to me about in respect of the lines which you say you made with a common pen showing the tenon?

A. I will be very glad to do so.

(The copy of the tracing referred to was marked "Duplicate Tracing, January 6th, 1885.")

HAMLINE Q. FRENCH recalled by defendants for further examination:

301 Re-X Q. My recollection of your last examination by me (by that I mean the examination that has taken place within the last two or three weeks) is that you testified in substance to several interviews with Mr. Beekman preceding the granting by him of the contract to you for the erection of the vault in Greenwood cemetery known as the Beekman vault. Am I right about that?

A. Yes, sir.

302 Re-X Q. My recollection of your testimony is that you were shown by him some plans or sketches or both of his notions and ideas of what he thought he wanted in the way of a vault. Is that so?

A. Mr. Beekman prepared a front elevation sketch of a vault, and

several months after that and within a short time of the date
202 of the contract he submitted the plans which have been put in evidence in this case.

303 Re-X Q. In the course of your negotiations with him preceding the granting of the contract to you, do you recollect of his bringing to your knowledge in any way the fact that he had submitted a sketch of his ideas about a vault to the firm of Van Dolsen & Arnott for their estimate upon it?

A. No, sir; I would qualify that by saying that I knew that some one had bid, although that name was not mentioned to me.

304 Re-X Q. You are perfectly clear in your recollection that no sketch or plan was shown by Mr. Beekman to you prior to your first talk with him as the one which he had submitted to that firm for them to estimate upon? I understand that that is what you say.

A. I have no recollection of it.

305 Re-X Q. In the course of the negotiations between you and Mr. Beekman, before the contract was finally awarded to you, did you hear him mention the name of Van Dolsen & Arnott as mechanics or persons who had estimated upon the work?

A. Not that I recollect.

306 Re-X Q. Do you know the firm of Van Dolsen & Arnott?

A. Only by reputation.

307 Re-X Q. Do they build cemetery vaults?

A. Not to my knowledge.

308 Re-X Q. In order to refresh your recollection in regard to the fact, if the fact really exists, that you ever saw any sketch that had been submitted to Van Dolsen & Arnott, I show you a paper which purports to be a letter from the firm of Van Dolsen & Arnott, to which is pinned and was pinned when it came into my possession three small pieces of paper, upon which appears a rough sketch of a cemetery vault. I ask you to examine them and then say whether you have any recollection of ever having seen them before.

A. I never saw those before.

203 309 Re-X Q. I show you now a sketch of a cemetery vault and ask you to say whether that was shown to you during the intercourse of your negotiations with Mr. Beekman, and I think it is fair to you to say that Mr. Beekman says he did make that sketch before he commenced talking with you, and that in the course of his talks with you showed it to you.

A. It appears to me to be the sketch which I have twice referred to in my testimony as having been shown to me by Mr. Beekman some little time after our first conversation, and, regarding this sketch, I have testified that it didn't show the roof stones running underneath the ridge or capstones, and I have testified that on this sketch I called Mr. Beekman's attention to the necessity of having capstones to cover those side stones.

310 Re-X Q. You think that this is the sketch that you have referred to in your testimony, do you?

A. Well, just as I have said, except that this sketch appears to be a little wider than the sketch I have in my mind, I think it is the identical sketch, and I recollect more particularly this from the fact

that after the work was finished and during some conversation regarding a bronze gate Mr. Beekman endeavored to find this same sketch, because it had his idea of a bronze gate, which bore the emblem of a lily, which was the coat of arms of the Beekman family.

311 Re-X Q. Then I understand you to say that this sketch which I have in my hand and which we will have marked was shown to you by Mr. Beekman pending or during the negotiations for the contract for building the vault?

A. Yes, sir.

204 (The sketch referred to was then marked Defendants' Exhibit Sketch Front View Beekman Vault, February 10th, 1885.)

HAMLINE Q. FRENCH.

Subscribed and sworn to before me this — day of January, 1885.

EDWARD J. KNAUER,
Special Examiner.

Direct examination of E. S. RENWICK:

1 Q. Please state your name, age, residence, and occupation.

A. Edward S. Renwick; I am 62 years of age; I reside at Milburn, New Jersey, my place of business being in the city of New York; I am by profession a civil and mechanical engineer, and for the last thirty-five years I have been engaged mainly in acting as expert in the trial of patent causes and soliciting patents.

2 Q. During your experience have you had any occasion to construe patents and compare structures and devices containing mechanical combinations; if so, to what extent, in what connection, and during what time?

A. I have been called upon frequently to construe the language of patents and explain the technical terms which are used in their specifications. I have also been frequently called upon to compare mechanical structures and devices for performing a great number of operations in the useful arts and to testify as to their similarities and differences with reference to the trial of patent causes in the United States courts. I have been called upon to testify in a great number of such causes; in fact, for a number of years I was so called upon almost weekly?

3 Q. During your experience have you had occasion to become acquainted with architectural combinations and construc-
205 tions; if so, in what capacity, to what extent, and under what circumstances?

A. I have made a study of architecture and have planned a number of buildings and superintended their construction, although I have not made a business of this branch of civil engineering. The last building of any importance with which I have had to do was the new lunatic asylum for the county of Essex, New Jersey. That building, when finished, will have a front about 450 feet in length and will be about 250 feet in depth. I planned the whole building, including the system of ventilation and warming.

4 Q. Are you familiar with the stone as a building material, its

capacities and qualities, in respect to its application to building purposes?

A. I believe that I am.

5 Q. Have you read and do you understand letters patent of the United States granted to Hamline Q. French, numbered 244,224, dated July 12, 1881, the application for which was filed June 1, 1881?

A. I have read and believe that I understand the contents of the letters patent of French named in the question and the construction and operation of the devices which are described in it and recited in its claims.

6 Q. Have you examined and do you understand the mechanical device and construction described in columns 353 to 359 of "Revue Generale de l'Architecture," vol. 13, 1855, and shown on the plates 41 to 45 accompanying the same and referred to by it as of the tomb of Billaud?

A. I have carefully examined the original description and plates of the book referred to in the question. I believe that I understand their contents and the construction and operation of the various parts of the edifice which is described and represented.

7 Q. I notice that the description above referred to is
206 printed in the French language. What, if any, familiarity have you with that language to determine the sense and meaning of the description?

A. I am generally familiar with the French language, and in the course of my business have to read it continually, so that I am familiar with the technical terms employed. I have also been frequently called upon to prepare sworn translations of French descriptions to be used in evidence in patent causes.

8 Q. Please state if you have compared the devices shown in the patent above mentioned and recited in the claims thereof with the devices as shown and described in the Alc. Billaud tomb above referred to, and whether the latter does or does not embody in substance the improvements recited in the claims of said patent, and give your reasons for your conclusions.

A. I have made the comparison inquired of in the question, and am of opinion that the Alc. Billaud tomb does not embody in substance the improvements which are recited in the two claims of the said French patent for the following reasons:

As I understand the said patent, the improvements which are recited in its claims have reference to the construction of roofs for vaults in such manner that the stones of which such roofs are formed shall not be separated by the action of the elements, it being now well understood in this country that if a roof composed of stones has exposed seams into which water can enter the roof in time becomes destroyed by the action of frost, which, freezing the water which enters the seams and expands in freezing, effects in time the separation of the stones.

The improvement which is recited in the first claim of the said French patent, as I understand the same, is a combination of three

kinds of devices, which are denominated respectively roof stones
207 B B, gable stones A, and capstones C. This combination, however, is not every combination of roof stones, gable stones, and capstones which the ingenuity of man can produce, but is a particular combination of certain kinds of stones which might be designated by those names and is characterized by the following peculiarities, viz., the roof stones are to be continuous from one gable stone to the other, as described in lines 18 to 20, 46 to 49, and 64 to 67 of the patent. There may be also one or more of these roof stones at each side of the capstone, as described in lines 64 and 65, so that the roof stones cover only a portion of the slope of the roof. The gable stones are each to be a single stone and of a length sufficient to connect the roof stones, as described in lines 41 to 43 of the specification—that is to say, the gable stones, as more fully shown by the drawings, are to extend transversely from one of the lateral roof stones at one side of the capstone to a lateral roof stone at the opposite side of the capstone, so that each gable stone may be employed to tie together the roof stones at opposite sides of the capstone. The capstone is to be formed with rabbets, so that its edges lap upon the roof stones, and the capstone itself is to rest upon the gables between the lateral roof stones, as represented in the drawings and as described in lines 22 to 24 of the specification. The roof stones and the gable stones, at opposite sides of the capstone, are to be locked together by mortises and tenons or their equivalents, as described in lines 17 to 21, 43 to 45, 48, 49, and 69 to 72 of the specification. In a structure of this description, having the above peculiarities, the capstone resting upon the gables between the lateral roof stones constitutes a part of the roof proper and forms part of the slopes at opposite sides of the ridge, while by reason of its rabbets and its lapping upon the lateral roof stones it covers and protects the upright joints in the slopes of the roof between itself and the roof stones at its opposite sides;
208 and inasmuch as the specification describes that one or more roof stones may be employed at each side of the capstone, and also describes that these stones are to be continuous from gable to gable and are to be locked by the gable stones, the leading principles which appear to be involved by the combination are that there shall be no transverse joints in the roof stones between the gable stones; that each stone which rests upon the gable stone and forms part of the roof shall lap over the longitudinal joint in the slope of the roof between itself and the next stone succeeding it in the slope of the roof, so as to protect that joint from the action of water, and that the lateral roof stones shall be securely tied together in a transverse direction by the gable stones, so that the roof stones cannot move down the slope of the roof.

The improvement which is recited in the second claim of the patent, as I understand the same, is a sub-combination of a portion of the devices of the combination of the first claim. It consists of the continuous lateral roof stones B B, which cover only portions of the slopes of the roof, and are separated by a space into which a capstone or a capstone and other continuous roof stones may be inserted, and of the gable stones A A, upon which continuous lateral roof stones

B B rest, the said roof stones and gable stones being connected and locked by mortises and tenons or their equivalents, so that the gable stones hold the lateral roof stones from moving down the slope of the roof, and enable these lateral roof stones to hold in place the capstone or the capstone and other continuous roof stones which may be inserted in the space between the lateral roof stones.

Now, I find that the Billaud tomb is a structure which contains, among other things, roof stones of some kind, gable stone and a capstone of one kind, and that these are combined together; but I also find that the said devices differ substantially from those which are recited in the first claim of the said French patent, and are
209 combined together in a substantially different manner; thus, in the said Billaud tomb there are two roof stones, which form the entire covering of the roof, these two being the two stones which are described in column 356 as two slabs of hard stone ("*deux dalles de pierre dure*"), which cover the slopes of the stones beneath them and meet at a vertical joint at the ridge of the structure.

These slabs differ substantially from the roof stones described in the patent in the respect that each covers the entire slope of one side of the roof instead of forming only a portion of each slope of the roof with a space between them, as the roof stones B B of the French patent do. There are also, in the Billaud tomb, stones which form the gables and which are in one piece, and these gable stones operate not only as gable stones, but also constitute a portion of the internal ornamental vault of the roof. There is also in the Billaud tomb an arrised ridge stone ("*arete faitiére*"), which covers the upright joint where the upper edges of the slabs meet each other at the ridge. This ridge stone differs substantially from the capstone recited in the first claim of the French patent and described in the specification and represented in the drawings thereof, in the respect that it is a mere covering for the ridge joint of the roof stones and forms no part of the roof itself, whereas the capstone recited in the said claim does not cover any ridge joint, but constitutes a substantial portion of the sloping roof of the structure as it intervenes between the lateral roof stones which form parts of the slopes of the roof and itself rests upon the gables, as previously stated by me. I find that in the Billaud tomb the slabs which form the entire slopes of the opposite sides of the roof are held together transversely and prevented from moving down the slopes of the roof by the gable stones by means of projections and cavities, which operate in the same manner as mortises and tenons, but the combination of stones in the said Billaud tomb is substantially different from
210 that recited in the first claim of the said French patent in the respect that the former does not have any capstone which rests upon the gables and forms a portion of the slopes of the roof, and also in the respect that the Billaud tomb does not contain any stone forming a portion of the slopes of the roof proper and resting upon the gables, which has rabbets at its edges, so as to lap over the upright seams in the slopes of the roof between itself and the roof stones which next succeed it in the slopes. In fact, the principle of construction which appears to be involved in the construction of the

Billaud tomb appears to be that the two slopes of the roof shall be formed of two stones, only meeting at a ridge joint, without any upright joint in the slopes of the roof, and that this ridge joint shall be covered by a ridge stone which has no other purpose than the covering of the ridge joint and its ornamental appearance, whereas in the French patent combination the slope of the roof at each side of the centre is composed of two or more stones having joints in the slopes and each upright joint in the slopes is covered and protected by a portion of the higher stone in the slope.

As respects the combination of the second claim of the French patent, I find that it is not embodied in the Billaud tomb, for the reason that the latter does not have two lateral roof stones which cover only portions of the slopes of the roof, and are separated by a space into which a capstone or a capstone and other continuous roof stones may be inserted, but contains, on the contrary, two roof stones (that is, the slabs of hard stone), which form the entire slopes of the roof and do not admit of the insertion of a stone of any kind between them.

9. Q. Please compare the devices shown in the H. Q. French patent and in the Billaud vault and state whether or not you find any differences in the utility of the two structures so far as concerns the economy of labor and materials.

211 A. I find that there is a very considerable difference between the utility of the two structures in the respect of economy of labor and materials when the structures are to be of such dimensions as to require large stones. Thus the Billaud structure does not describe or suggest any means for protecting upright joints in the slopes of the roof from the action of the elements, and consequently, if a structure is to be built upon the principle embodied in the Billaud tomb, each slope of this roof, however large that slope may be, must be formed of a single stone, and when the structure is large the cost of procuring and handling such stones must be enormous. If, however, the attempt should be made to construct the roof of a vault of large size of a number of stones for the purpose of avoiding the great expense of large stones, inasmuch as the only mode of protecting upright joints shown in the Billaud tomb is by a piece of stone which forms no part of the slope of the roof, but is simply the covering of the joint, the several stones forming the slopes of the roof would abut against each other with upright joints as the roof stones of the Billaud tomb abut at the ridge, and these upright joints in the slopes would be covered by pieces of stone corresponding with the ridge stone of the Billaud tomb, so that the roof of the structure would correspond in substance with the sketch, Fig. 1, which I now produce, in which the several roof stones forming the slopes of the roof are designated "B," and the stones covering the joints are designated "A." Such a structure would afford no protection against the destructive elements, because water would collect at the upper side (*a*) of each lateral covering piece. The water also would enter the joints and the roof would speedily be rendered valueless.

The system which is described in the French patent, on the other

hand, enables a large structure to be roofed efficiently with stones of comparatively small size, as each slope of the roof may be
212 formed of several stones, the upright joints of which are securely protected against the action of the elements by the overlapping portions of the higher stones forming each joint respectively. Thus, as I have represented by Fig. 2 on the diagram produced by me, each slope of the roof may be formed of several stones, which, when the structure is large, can be procured and handled at a much less cost than if the entire slope at each side of the roof should be made of a single piece of stone; and each upright joint (*b*) in the slope of the roof would be covered and protected from the elements by the overlapping portion ("*d*") of the higher stone forming each joint.

(Drawing marked in evidence Defendants' Exhibit "Renwick Pen Sketch," January 8th, 1885, E. H. K., ex'r.)

10 Q. Defendants' witness, William B. Tuthill, when asked at the
301 Re-X Q. of his testimony the meaning of the word "dure," in the 10th line of column 356 of the text of volume 13 of "Revue Generale," replied that the primary meaning of the word was "thick," and that that was "the most usual meaning of the word." Is he correct or incorrect? If incorrect, please state wherein.

A. In my opinion, Mr. Tuthill is not correct in his understanding. The word "dure," used in the French description, is an adjective, of feminine gender, and I understand that its primary and usual signification is the same as the English word "hard." Thus in the large dictionary of Fleming & Tibbins, which I have also understood to be the most reliable dictionary for French and English, the English word "thick" is not mentioned as one of the significations of the adjective "dur" or "dure" in the feminine. I may also state that to translate the word "dure" by the English word "thick" appears to me to be inconsistent with the description and drawings of the French book. Thus the drawings show
213 that the stones which are described as being of "pierre dure" are comparatively thin, and, besides, they are called "dalles," which I understand to signify slabs, such as slabs of flagstone, which are generally thin in proportion to their other dimensions. Thus in the dictionary of Fleming and Tibbins the English translations given of the word "dalles" are "a slab (of marble), a flag, a flagstone, a thin, broad stone for pavements."

11 Q. Have you any knowledge of the prevailing materials for the construction of building, in France? And, if so, please state what knowledge you have.

A. I have read a great deal of the construction of buildings in France, and have also been in France, and have noticed the materials used in construction.

12 Q. From your knowledge thus acquired, to what do you construe the words of the text and the description as shown by the annexed plates — refer, so far as the materials used in the construction of the Billaud tomb are concerned?

A. It will be noticed in the plates of the French work that the

interior of the Billaud tomb is highly ornamental, and I know that it is customary in France to use a comparatively soft stone, such as what is commonly known in this country as "Caen stone," for such ornamental work, stone of this character being of a beautiful buff color, and being so soft when first taken from the quarry that it is readily cut by edge tools. On the other hand, such stone does not stand the weather well, particularly when exposed flatwise to it. Hence the constructor of the Billaud tomb would naturally cover the ornamental roof made of soft stone with slabs of a hard stone (pierre dure), which would not be materially affected by the weather, and I understand the word "dure" in this description to refer to such a construction of the building.

13 Q. I notice that the defendants' witness, Henry L. Brevoort, in his answer to question 5, states that the Billaud tomb is "a
214 burial vault built for holding the dead." Is that correct or incorrect? If incorrect, please give your reasons for so stating.

A. It is incorrect, according to my understanding of the French description and the plates. Thus, according to the description in column 355, it is the foundations of the tomb which enclose the sepulchral vault, and not the tomb itself, which, as I understand the description, is a small chapel, which is not intended to contain dead bodies, but is built over the vault in which the bodies are contained, such chapel containing inscriptions on its walls and an altar.

14 Q. In the testimony of the same witness, in his answer to the same question, he states substantially that the tenons shown in the Billaud vault are "like complainant's, only larger and more secure," and he then states that complainant's patent says, "I do not limit myself in that respect." Are these words of complainant's patent used concerning the size of the tenon; if not, to what does it refer?

A. As I understand the patent, the words referred to have no reference to size, but refer to the variety of the locking device which is to be used, and, as those words are used in the part of the specification in which they occur, I understand them as saying, in substance, I do not limit myself to the variety of locking devices known as mortises and tenons, as dowel pins or other equivalent devices can be used for locking the roof stones.

Adjourned until January 9th, 1885, at one o'clock p. m.

215 15 Q. Defendants' witness, Henry L. Brevoort, in his answer to the 5th question, has stated that the patent sued on is defective, in "that no clear view is given of the gable stones," and "it cannot be clearly determined whether the gable stones terminate at *x*, in figure 1 of Brevoort diagram," or whether they are prolonged to "*y*." Please state whether or not, in view of the specification, description, and claims of the patent, the shape of the gable stones appears with sufficient clearness to enable any person skilled in the art to which it appertains to construct the device, and give your reasons for your conclusions.

A. In my opinion, the specification and drawing of the French

patent are sufficient to enable a person who is skillful in the building of such structures to construct the device described in the patent, for the following reasons: It is undoubtedly the fact that the division line showing the joint between the gable stone at one end of the building and the coping stone *c* of the side walls is not shown in the drawing, but it is equally clear that there is no joint line shown at *y*, as placed on Defendants' Exhibit Brevoort Diagram; so that there is nothing in the drawing to indicate that the gable stone should be extended along the side walls as far as the point *y* in the said diagram. If, therefore, a builder should form his opinion of the construction of the building from the drawing alone, without reading the specification, the opinion which he would naturally form would be that the two gable stones and the intervening copings of the side walls were all in one piece and constituted what may be termed a square ring. In my opinion, however, a skillful builder who should read the description given in the specification would have no difficulty upon this subject. Thus the term gable stone as ordinarily used in buildings signifies stones forming the gable of buildings,
and not the copings of the side walls; so that a builder who
216 read the description would not naturally conclude that the
gable stones of the structure extended over the side walls. Then the description appears, to my mind, to be clear as to what are gable stones and what are not. Thus at lines 37 to 39 there is the following language:

"The side walls *a a* of the vault are laid up in the usual manner."

And the drawing shows that the walls to which the letters *a a* are applied extend from one end of the building to the other. The specification further says:

"A A are the gable stones." * * * "The gables A are each a single stone of any required shape and size and of a length sufficient to connect the roof stones."

And again, in lines 62 and 63:

"The space at the sides between the stones A is filled out by stones, *c*, set upon the side walls."

These portions of the description, taken in connection with the ordinary meaning of the term gable stone and the position of the letters of reference upon the drawing, clearly indicate to my mind that the gable stones are to be gable stones only, and are not to form the coping of the sides walls, and that the gable stones are separated by the stones *c*, which form those copings. Hence, in my opinion, any competent builder who read the specification in connection with the drawing would naturally place the joints of the gable stones with the intervening stone *c* at the place marked X on the Brevoort diagram, and would not think of extending the gable stones over the side walls to the point *y* on that diagram, so as to make the gable stones include the stones *c*, which are specially described as filling
the space between the gable stones A.

217 16 Q. Do you know the attitude of Mr. French, the complainant, towards the Beekman vault, as shown by his testimony?

A. I do, having had the testimony read to me by the counsel of

the complainant and having examined the exhibits referred to in the testimony.

17 Q. In the light of that testimony what is the relation which the Defendants' Exhibit Original Drawing of 2 Sections of Beekman Vault Delivered to Complainant, from which he constructed said vault, both before and after his alteration, bears to the improvements recited in the specification and claims of the patent sued on?

A. As I understand the testimony of Mr. French in connection with the exhibit referred to in the question, that exhibit in its original condition did not show any tenons in the cross-section of the vault, but had the underline of the roof's stones at the left-hand side of the section a continuous straight line. The exhibit in that condition represented two roofs stones partially covering the structure, with an intervening capstone extending a portion of the length of the structure, the two roof stones and the intervening capstone resting at their front ends upon the gable stone and resting at their rear ends upon the brick vault. In that condition the said exhibit did not represent the combinations recited in the two claims of complainant's patent. The exhibit lacked the extension of the roof stones and the capstone from gable to gable. It also lacked any indication or suggestion that the gable stone at the front end of the building was to be of one piece of sufficient length to tie together the two lateral roof stones. It also lacked any suggestion indicative of the uses of tenon for any purpose, and it lacked any indication or suggestion of the combination of the lateral roof stones by tenons, with gable stones of sufficient length to tie or lock the two lateral roof stones to each other, all of which are features which, as I
218 understand the said complainant's patent, are essential characteristics of the combination recited in the first claim, and all of which, except the extension of the capstone from one gable stone to the other, are essential characteristics of the combination of the second claim. The only features of the two combinations of the claims which the drawing in its original condition exhibited were that the roof should be composed of three stones, the central of which intervened between the two lateral roof stones and overlapped their edges.

As I understand the said testimony, the exhibit referred to in the question after its alteration described the extension of the roof stones the entire length of the building, and that they were to rest on the back wall thereof, and represented the lateral roof stones as combined with the coping stones of the side walls by means of tenons entering mortises in the roof stones. In this condition of the exhibit it lacks any indication or suggestion that the front gable stone was to be of one piece sufficient in length to connect the lateral roof stones. It also lacks any indication or suggestion of a gable stone at the back wall, and it lacks any indication or suggestion that the gable stones at the end of the structure were to connect the roof stones and to be locked to the roof stones by mortises and tenons or any equivalent thereof, all of which are essential characteristics of the combinations of the first and second claims of the patent. The only feature of the combination recited in the claims which the ex-

hibit in its altered condition described and represented were that the roof stones and capstones should be continuous from end to end of the building; that the capstone should intervene between the lateral roof stones, and that it should lap upon them. The mortises and tenons as represented in the exhibit when altered would not be of any practical value, because they are represented as combining the lateral roof stones with the coping stones of the side walls, as there is no indication or suggestion in the exhibit of any
219 means whatever of preventing these coping stones from being separated and pushed outward other than the friction at their under joints, so that they would not connect the roof stones at the opposite sides of the capstones and would form no material obstruction to their outward movement.

18 Q. In the light of complainant's testimony and of complainant's Exhibit Beekman and French Sketch No. 2 and diagram C, shown thereon, do you or do you not find any essential element of complainant's invention shown by Defendants' Exhibit Original Drawing of Two Sections, &c., not shown in such sketch and in complainant's statements of his invention, as detailed in his testimony?

A. I do not.

19 Q. Defendants' witness, Edgar D. Howland, has testified substantially, at 128 cross-question, that the design of the Beekman vault, as finally determined upon by himself and Mr. Beekman, contemplated that the stone of the roof should "run clear back to the rear and rest on the rear brick wall," thus dispensing with the rear gable stone, as shown and described in complainant's patent sued on. Now, assuming that the remainder of the structure was the same as shown in said patent, what would be the relation between such a structure and the invention of complainant as disclosed by the specification and claims of his patent?

A. In such case the structure would lack one of the two gable stones, which is an essential characteristic of the combination of both claims of the patent. It would also lack the connection and locking of the gable stone and roof stone at one end of the roof by mortises and tenons or their equivalents, which is an essential characteristic of the combination of both claims.

Cross-examination waived.

220 PLAINTIFF'S EXHIBIT No. 2, OF MAY 18, '83.

OFFICE OF MARK & ST. JOHN,
No. 84 ASTOR HOUSE, NEW YORK, *Jan.* 4, '82.

Memorandum of agreement made this day between James Scott, of 49 Dupont St., Greenpoint, and Mark & St. John, of office, 84 Astor House, New York, for the setting complete of the granite vault for Oliver S. Carter, in Rosedale cemetery, Orange, N. J., as follows:

The said James Scott is to furnish complete one derrick, 30 ft., complete with hoisting gear, including 5 blocks & two blocks extra; one two & one three sheave blocks, with new rope, complete & full

for the rigging, the same for hoisting, & guys & pulley blocks, for which the said Mark & St. John are to allow & pay for the same eighty-five (85) dollars, and this derrick, pulley blocks & rigging, complete is to be & remain the property of Mark & St. John, and to be left in their possession. The said James Scott is to set complete the said vault named above, including all the granite from foundation to & including roof stone complete, furnish all blocking timbers, jacks, & setting complete in every respect for the sum of three hundred & sixty-five (365) dollars. It is understood the cement, lead, and material used in jointing is to be furnished by Mark & St. John, payments in consideration of the complete setting, as heretofore named, to be made for payment of men as the work progresses and the full amount in accordance with this contract within thirty days after its completion in accordance with the plans & specifications furnished for said work.

The said work to be commenced at once & as the weather will permit & to be completed with all possible despatch.

JAMES SCOTT.
MARK & ST. JOHN.

Witness:
A. B. MULLEN.

222 UNITED STATES PATENT OFFICE.

HAMLINE Q. FRENCH, of New York, N. Y.

Roof for Vaults.

Specification forming part of Letters Patent No. 244,224, dated July 12, 1881; application filed June 1, 1881. (No model.)

To all whom it may concern:

Be it known that I, Hamline Q. French, of the city, county, and State of New York, have invented a new and useful improvement in roofs for vaults, of which the following is a specification.

My improvements relate to the construction of roofs for vaults, mausoleums, and structures of similar character built of stone and intended for burial purposes; and the object of my invention is to obtain a building without vertical joints, and one held together and locked at the roof, so that by the locking and the weight of the roof the structure shall be made as enduring as the material of which it is built.

My improved roof consists of the front and rear gable-stones, the roof-stones, which are continuous from one gable-stone to the other at each side, and held to the gable-stones by mortise and tenon or equivalent connections, and the cap-stone, which is formed with a rabbet to lap upon the roof-stones and rests upon the gables, by which construction the stones forming the complete roof are securely locked, and without possibility of dislocation without being raised bodily upward.

(No Model.) 221

H. Q. FRENCH.

ROOF FOR VAULTS.

No. 244,224. Patented July 12, 1881.

Fig. 1.

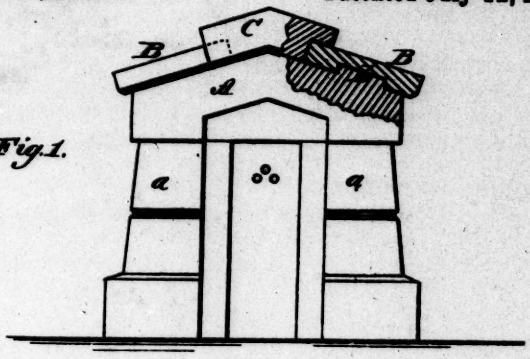

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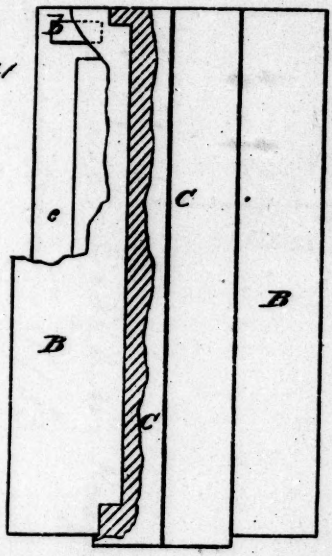
Fig. 2.



WITNESSES:

D. Twitchell.

C. Sedgwick

INVENTOR:

H. Q. French

BY Munn & Co

ATTORNEYS.

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Carter et al.
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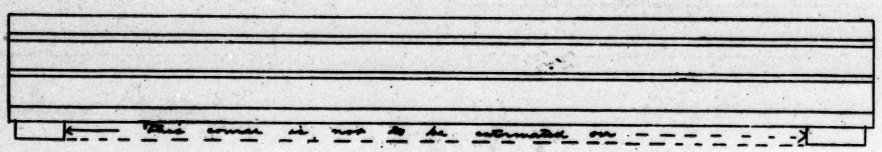
Complainants Exhibit "Rough Sketch" of Dec 14/03.

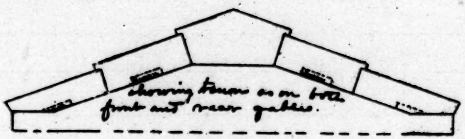
DAO

Gable Roof Drawing of roof
Library Vault
Dec 6 1898
Emmett Kaiser



Side Elevation

Front Elevation



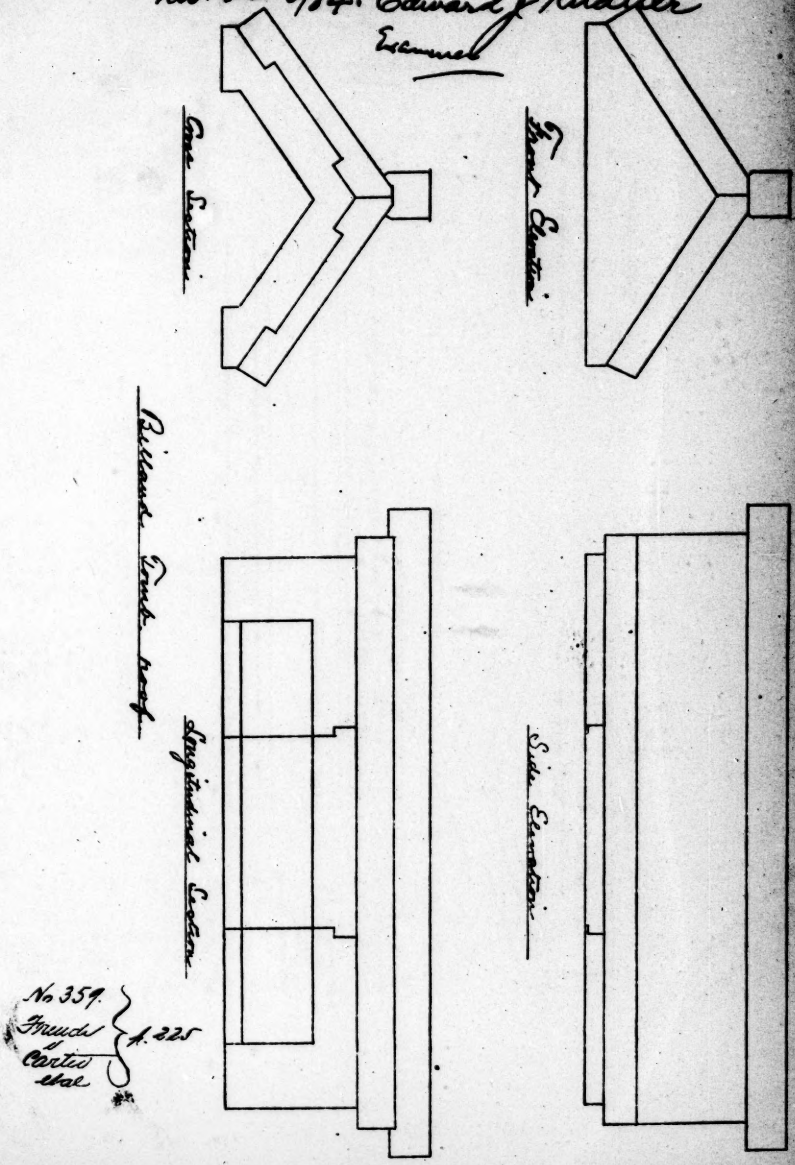
Plan Section

Gable Mansard Roof
see Question 15

Side this one for

No 237
Front
Gable
Roof
p. 236
Carter
1902

Whites Drawing Roof
Billard Vault
Nov. ~~Oct~~ 6/84. Edward J Kuauer
Examiner



No 359.
Freude
"
Carter
et al
p. 225

White Lead Drawing
Ref. to Patent Book
Nov 6. 1874
Edward J. Tuttle
Editor

No 359
Tuttle
vs
Cartwright

Ex. 226

Patent Office
copy
as Exhibit 13

Side Elevation

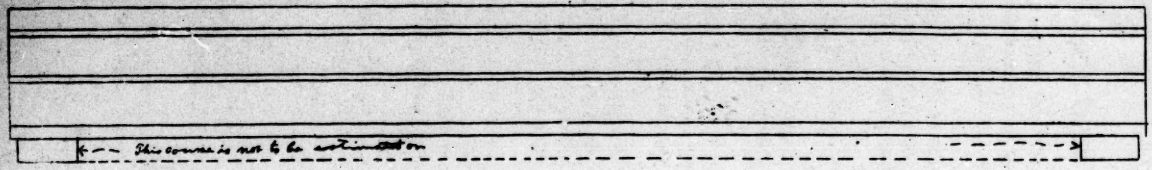
Plain corner iron next to the [illegible]

Front Elevation

Scale 3/4 in. 1'

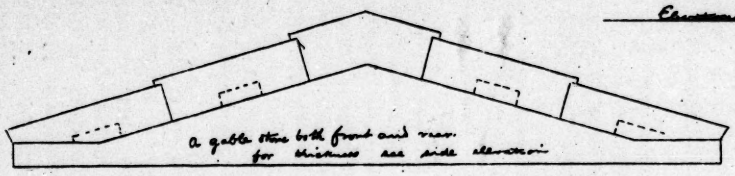
Side Elevation

227



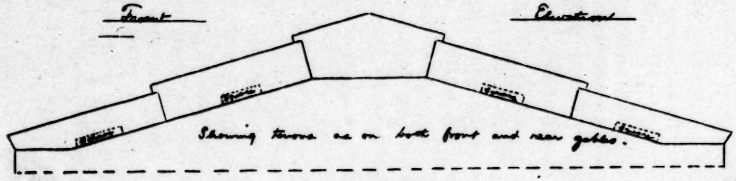
Side

Elevation



Front

Elevation



Cross Section

Scale
[illegible]

Roof of
Gould Mausoleum
see Question 17

White Scale Drawing Roof
of Jas Smith Vault
Nov 6. 1884
Edward J. Hanson

No. 359.
French
v.
Carter Nat.
p. 227.

My invention is shown in the accompanying drawings, forming part of this specification, wherein—

(Here follows diagram marked p. 221.)

Figure 1 is a front elevation, partially in section, of a vault constructed in accordance with my invention. Fig. 2 is a plan view of the same, with the cap-stone partially removed.

Similar letters of reference indicate corresponding parts.

The side walls, *a a*, of the vault are laid up in the usual manner.

A A are the gable-stones, B B the roof-stones, and C the cap-stone.

The gables A are each a single stone of any required shape and size, and of a length sufficient to connect the roof-stones. They are formed upon each of their upper surfaces with tenons *b*.

The roof-stones B are also each of a single piece in length or continuous from one gable-stone to the other. These are formed with mortises for receiving the tenons.

The cap-stone C is a single piece, and of a length to rest upon the gable-stones A at its ends. It is formed to lap at each side upon the stones B, on the whole or any portion of its length. The stone C is to be lowered to place after the stones B are set, and, as will be seen, completes the roof and locks the parts together. This stone C is in practice of great weight, which weight tends entirely to hold the structure together, and there being no vertical joints to spread open there can be no disruption or displacement by ordinary means.

The space at the sides, between the stones A, is filled out by stones *c* set upon the side walls.

The roof at each side of the cap-stone is to be formed of one or more roof-stones B, each being continuous from one gable-stone to the other, and locked, as described. The roof may also be made flat, curved, or inclined.

In place of using the mortises and tenons shown, dowel-pins or other equivalent devices can be used for locking the roof-stones. I do not limit myself in that respect.

Having thus described my invention, I claim as new and desire to secure by letters patent—

1. A roof for vaults and similar structures, consisting of the continuous roof-stones B B, gable-stones A, connecting and locked to the roof-stones, and the cap-stone C, lapping upon the roof-stones, substantially as shown and described.

2. In roofs for vaults and similar structures, the combination of continuous roof-stones B B and gable-stones A A, connected and locked by mortises and tenons, or equivalent devices, substantially as shown and described.

HAMLINE Q. FRENCH.

Witnesses:
GEO. D. WALKER.
C. SEDGWICK.

(Here follow diagrams marked pp. 223 to 227, incl.)

228 COMPLAINANT'S EXHIBIT BEEKMAN LETTER, DEC. 31, '84.

61 LIBERTY STREET, *Aug. 7th*, 1878.

French & Co.

GENTLEMEN: Please add to the contract already entered into by us for building a vault in Greenwood the following items: "Continuing granite course all around under roof stones, set complete, $288; granite flooring in three pieces, $176; making front wall six inches thicker and cutting back door recess, $240; enlarging stones to avoid vertical joints on front, $300"—

Making in all $1,004, "which sum of $1,004 we agree to pay upon the same terms and subject to the same conditions as in the original contract."

Respectfully yours, GERARD BEEKMAN.

(Here follow diagrams marked pp. 229 to 234, incl.)

235 U. S. Circuit Court, Southern District of New York.

HAMLINE Q. FRENCH
against
OLIVER S. CARTER, GEORGE MARK, and MILTON H. ST. JOHN.

Before Edward J. Knauer, Esq., special examiner.

NEW YORK, *Sept. 25th*, 1882.

Present: Parties as before.

EDGAR D. HOWLAND, a witness called on behalf of the defendants, being duly sworn, testified as follows:

By Mr. RANSOM:

1 Q. Where do you reside?

A. Spring Valley, New Jersey.

2 Q. Where is your place of business and what is your business?

A. 149 Broadway; I am manager of the Beekman estates.

3 Q. Are you the Edgar D. Howland who made an affidavit to be used in this action, and in which you have just now been sworn as a witness, some time in June, 1882?

A. I recollect making an affidavit.

4 Q. In this case?

A. In this case, nearly a couple of years ago.

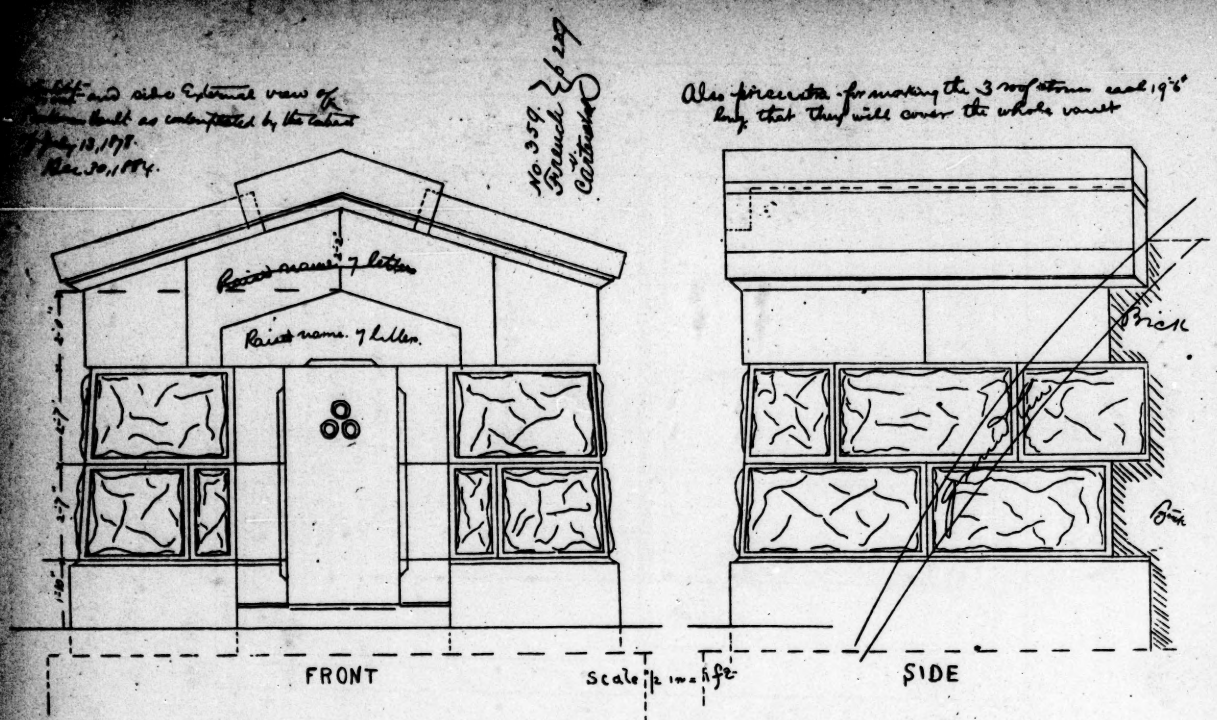
5 Q. The subject of that affidavit was a roof of a vault made for the Beekman estate by the plaintiff, Mr. French, was it?

A. Yes, sir.

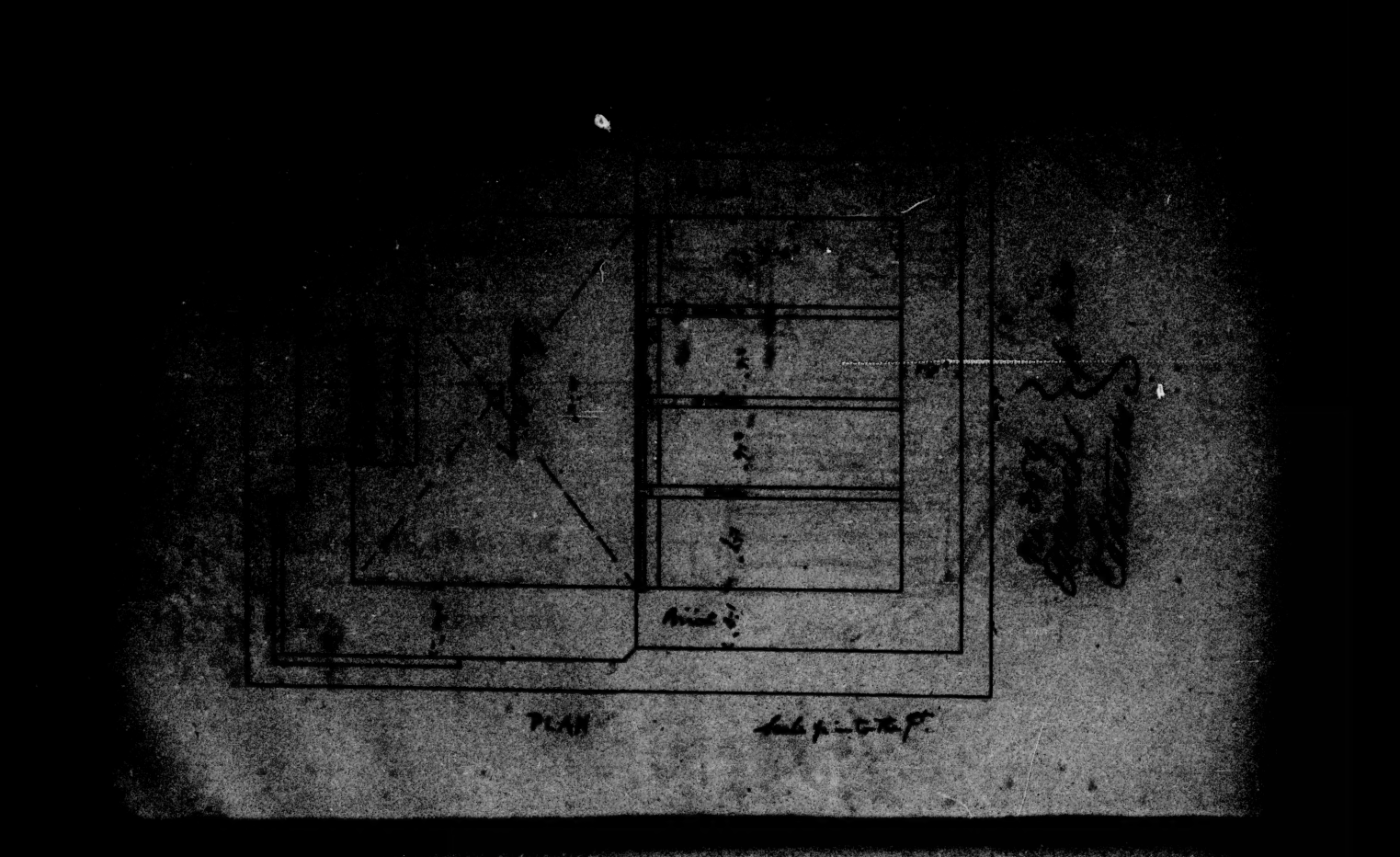
236 6 Q. How long have — been in the employ of the Beekmans?

A. Between 13 and 14 years.

7 Q. And the vault which was spoken of in this affidavit of yours as the "Beekman vault" was set up by the plaintiff, French, for them?



and side External view of
Vault as contemplated by the Contract
July 13, 1878.
Dec. 30, 1884.
No. 359.
French
v.
Carteret
p 229
Also precentra for making the 3 roof stones each 19'6"
long that they will cover the whole vault
Raised name of letter
Raised name of letter.
Brick
Brick
FRONT
SIDE
Scale 1/2 in = 1 ft


PLAN

FRENCH & CO.,

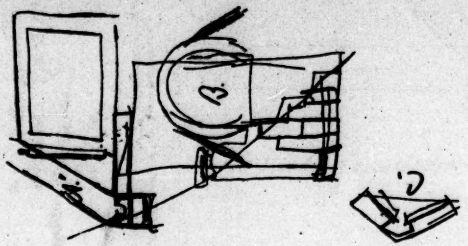
GRANITE,

MONUMENTS, TOMBS, ETC.

Office, 206 BROADWAY.

EVENING POST BUILDING, FIRST FLOOR.

NEW YORK.



FRENCH & CO.,

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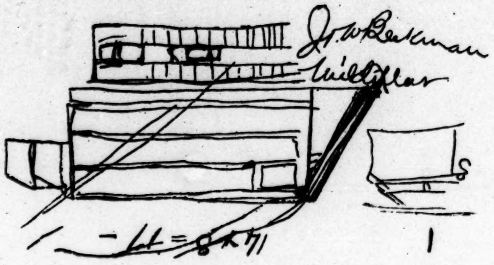
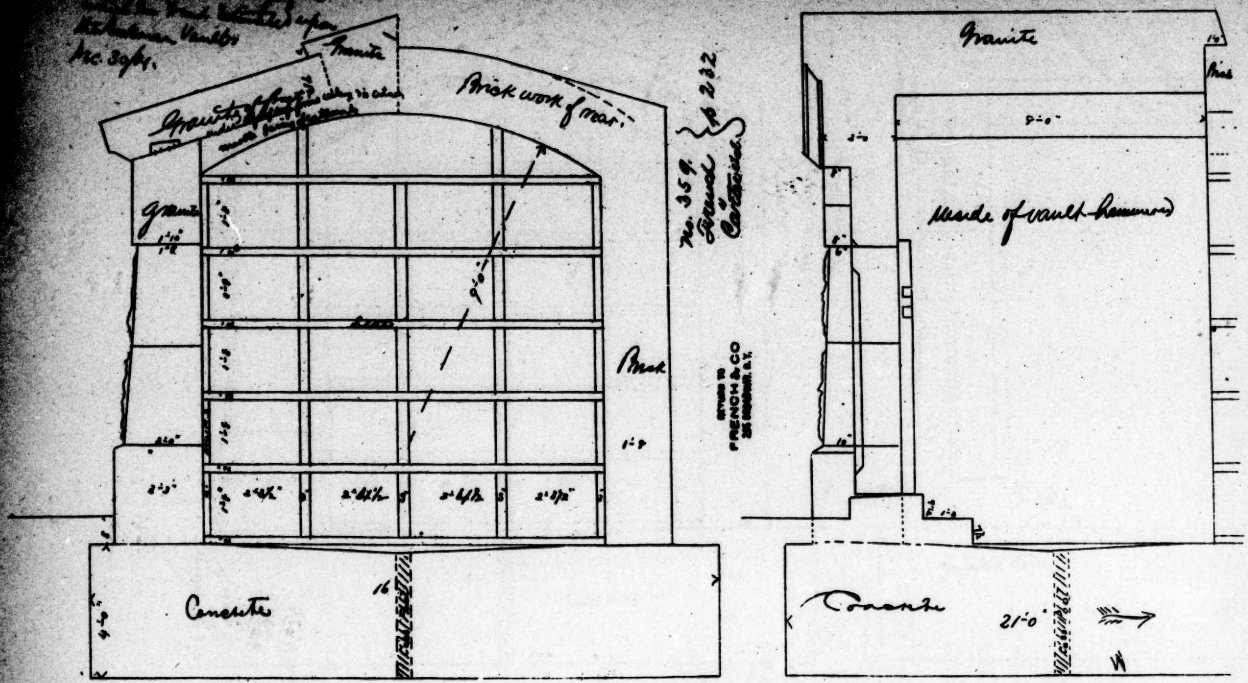
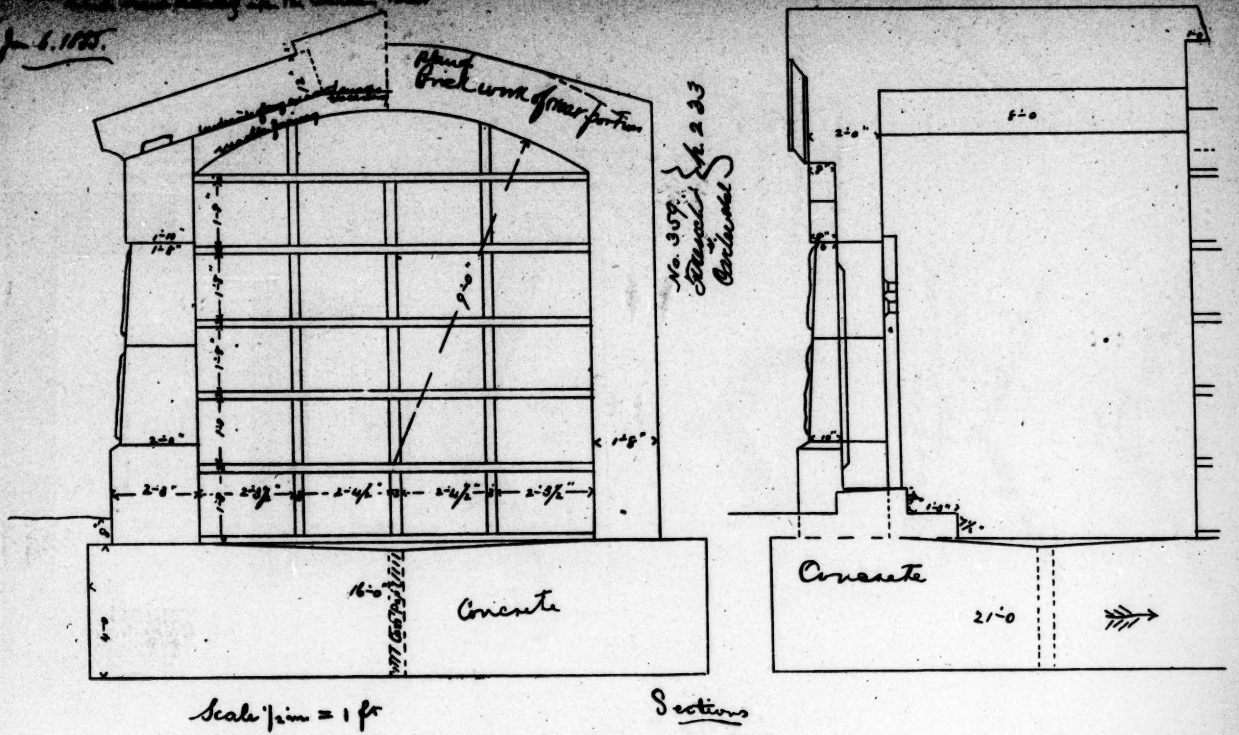




Scale 3/8 in = 1 ft.

SECTIONS

Jan. 6. 1885.



A. Yes, sir.

8 Q. In Greenwood cemetery?

A. Yes, sir.

9 Q. Do you know the fact that Mr. French was employed by the Beekmans to put up that vault?

A. Yes, sir; he was the contractor.

10 Q. Had you personally anything to do with him in respect of the agreement on his part to put it up?

A. I drew the agreement.

11 Q. You acted for the Beekmans?

A. Yes, sir.

12 Q. Prior to Mr. French's employment by them and prior to the execution of the contract which you speak of, what, if anything, had you done in respect of the plans and measurements and drawings for that vault?

A. Well, shall I give you the history of the transaction?

13 Q. Yes; I wanted to ask you some general question to start you off.

A. Mr. James W. Beekman, father of the present generation, died in June, 1877. I had known him ever since I was a boy and had charge of his business since 1870. He was a very warm personal friend to me besides being my employer, and I was desirous of showing my regard for him by designing a vault, knowing that the family wanted to build one. From 1850 or 1851 down to 1870 I was almost entirely engaged in the architectural business—for about 20 years. I gave it up on account of trouble I had with my eyes, but resumed at this time. I made a design for the vault. Mr. Gerard Beekman, who is quite an artist, made another one.

237 The design selected was a combination of the two. The drawings for the whole thing was made by me personally. The specification was written by me. Mr. Beekman is one of the trustees of Greenwood cemetery, and he had advantages by virtue of his office and the examination of vaults there built, and he knew all the defects of former constructions. He had the assistance of superintendent, Mr. Perry.

Mr. FLETCHER: This is not responsive to the question.

WITNESS: I am only getting at the fact how this came to be a combination design.

Mr. RANSOM: Perhaps you have stated as much as is pertinent in regard to Mr. Beekman's special facilities and knowledge.

Mr. FLETCHER: The answer to the question we have no objection to, but any further enlargement upon Mr. Beekman's qualification is objectionable. The witness will please confine himself to his own experience as to the vault.

WITNESS: After I had made the general plan of the vault, then the question came up as to the peculiar construction of it in order that it might stand the effects of frost, settling, or anything else that might occur, and Mr. Beekman advised certain lugs, dowels, etc., and these were incorporated as part of the plan—part of the drawing.

Mr. FLETCHER: If these were drawings, we shall object to any

oral descriptions of them as such, as this witness made or invented or originated.

14 Q. You speak from personal knowledge?

A. I made the drawings.

15 Q. When you say Mr. Beekman "advised," you know he did advise from personal knowledge, do you?

A. Yes, sir; I was present.

16 Q. Now proceed with the history of the preparation, by you or by anybody else to your knowledge, of the plans and specifications for the vault known as the "Beekman vault."

A. There were no other drawings used except copies of those I made.

238 17 Q. Now, have you preserved the drawings which you made?

A. I think we have them in the office; I think they were returned to us; I am not positive; I am under the impression they were.

18 Q. Will you do us the favor of examining, and if you have them let us have them at some other day.

A. Yes, sir.

19 Q. State whether or not the vault, as constructed by Mr. French, was constructed after this plan and specification made by you, as you have described.

A. Substantially the same; yes, sir; I don't know of any variation.

20 Q. When Mr. French was employed to construct this vault were these drawings and specifications given to him upon which he was to make his bid or proposition for the work?

A. Yes, sir.

21 Q. Will you describe the plan, as devised by you and Mr. Beekman, already mentioned, of the construction of the vault roof to the Beekman vault.

Objected to, as it appears there is better evidence of the precise construction in the drawings from which the structure was made, and the testimony should properly appear as commentaries on the drawings, in their presence and they being in evidence, rather than descriptions in the absence of them.

Question repeated.

A. Well, about the first idea we had was that there should be as few stones as possible for the purpose of avoiding joints—as few joints as possible. In other words, that they should be large and heavy, and that they should be so put together that the weather could not enter the joints; vertical joints particularly were to be avoided. Then the roof stones originally in the first drawings ran over what was called the vestibule, not over the catacombs;

239 but before the contract was completed they were made continuous, one stone running clear through under the bank. The roof was composed of three stones, the centre stone overlapping the other two to cover the joints.

22 Q. And those roof stones extending from the front to the rear of the vault?

A. Yes, sir.

23 Q. The entire width or length of the vault?

A. Yes, sir; you might call it the depth of the vault, from front to rear.

Mr. FLETCHER: I move to strike out the answer as not responsive.

24 Q. Now, describe how those stones were locked together.

A. The side roof stones—that is, running from the side toward the centre on each side—were on what I spoke of a little while ago, lugs or dowels. There were hollows made in the roof stone, and there was a solid square left on the wall stone to prevent their slipping down in any way. Those were there acting as pins, and then the center stone lapped over these two side stones and dove-tailed down in between

25 Q. The stones locked or fitted together in that way completed the roof of the vault, and that method of constructing the roof and locking the stones of the roof together was devised or invented or discovered, or whatever word you choose to accept, by this Mr. Beekman and yourself, and reduced to a drawing before Mr. French was employed to build this vault?

Objected to as leading and as a conclusion.

A. Yes, sir.

26 Q. When were these drawings, as you have described them, completed by you?

A. In the winter or spring of 1878.

240 27 Q. And when were they delivered into the hands of Mr. French, the plaintiff in this action?

A. My impression is about June or July.

28 Q. Of what year?

A. 1878. The contract was to have been completed, I think, in November.

By Mr. FLETCHER:

29 Q. November the same year, you mean?

A. I think so.

By Mr. RANSOM, resuming:

30 Q. Can you state to-day the precise date when the Beekman vault was completed by Mr. French?

A. Not from memory. I can state the year only.

31 Q. Can you ascertain the date from an examination of your books?

A. Yes, sir.

Mr. RANSOM: I will ask you to do that, then, some other time.

32 Q. I show you this photograph, which purports to be a photograph of the Beekman vault. Do you identify that as a correct picture of that vault (handing witness photograph)?

A. Yes, sir.

33 Q. And the roof of the vault, as shown by that picture, is the roof which you mentioned as having been devised by you and Mr. Beekman and specified in these specifications?

A. This does not show the joints; they are hidden under this stone.

34 Q. But that is the way the roof appears after it is completed?

A. Yes, sir.

The photograph referred to was then marked "Defts' Ex. Beekman Vault, Sept. 25th, 1883."

241 35 Q. I now show you, Mr. Howland, a copy of the patent of Mr. French for roof for vaults, with the drawings of the roof thereon, and ask you to examine it, and the question I wish to ask is, In what respect, if at all, does that patent and the description thereof, as shown by the drawing, differ from the plan and specifications of the roof of the Beekman vault which you have already mentioned, and which you gave to Mr. French at the time he was employed to construct the Beekman vault?

Objected to on the ground that the witness has not been qualified as an expert sufficient to compare drawings of mechanical structures and give opinions thereon.

A. I don't see any material difference.

36 Q. Well, do you see any immaterial difference?

A. There is some slight differences here between the drawings originally made and these, but it is the same thing.

37 Q. Is there any difference in the method of constructing the roof and locking the stones upon it?

Mr. FLETCHER: I make the same objection to this question.

Complainant's counsel states in this connection that he now objects to all questions defendants' counsel may hereafter put to the witness in regard to the comparison of the two drawings.

A. No, sir.

38 Q. In respect of locking the stones together to make the roof complete with three stones is it not precisely the same?

A. It seems to be precisely the same.

39 Q. Have you any doubt about it?

A. I have not.

40 Q. You stated a short time ago that you had been for twenty years engaged in the architectural business. During that time
242 have you or have you not been familiar with plans, buildings, and other structures, the making of them and measurements, and all the details, mechanical and otherwise, of an architectural business?

A. Yes, sir. I used to think I had peculiar facilities up there at the office.

41 Q. Prior to your preparing the plans, drawings, and specifications for the Beekman vault, had you ever had any experience at all in cemetery vaults or in their construction?

A. No, sir; I don't think I did.

42 Q. Are there any principles of mechanics or architecture involved in the construction of a cemetery vault which differ from those involved in the construction of any other structure which depends upon measurements and the application of mechanical principles?

A. I think not.

43 Q. The discovery of the method of locking these stones together by what you have termed dowels and lugs was made, as I understand you, by Mr. Beekman?

A. Yes, sir.

44 Q. And you made the plans and specifications after his suggestions in that regard?

A. Yes, sir.

45 Q. And this discovery of his, I understood you to say, was some time in the spring of 1878?

A. I think in the spring of 1878.

46 Q. Is there anything new in the use of dowels and lugs for the purpose of fastening substances together, either stone or timber?

Last objection renewed.

A. It is as old as anything I know of.

47 Q. In your experience as an architect it is the common or only way in which stones or heavy stones are fastened together—by dowels or lugs?

A. In some forms; yes, sir; sometimes stone and sometimes metal.

243 48 Q. The object of making the dowel and lugs in the stone itself instead of using metal bars of iron, brass, or otherwise is what? What was the purpose of it?

Same objection renewed.

A. To avoid corrosion.

49 Q. Have you got the contract that was made between Mr. French and the Beekmans for the construction of this vault?

A. I think so.

50 Q. Will you do us the favor to produce it some other day?

A. Yes, sir.

51 Q. I show you now a paper marked "Exhibit A" and annexed to your affidavit, which was read on a motion that was made in this action, and ask if that is a part of the sketch made by you of the Beekman vault.

A. Yes, sir; this — a section.

52 Q. Now, point out, if it exists, any distinction or difference between that drawing and the drawing on the patent which I now show you, disregarding in your examination of the patent drawing the representation of the joints.

A. Well, all that I can see here is that the roof might be taken to be one stone. The roof might be considered here on this drawing (witness indicating) as one stone. It was not so in the original drawing.

53 Q. Does the paper which you are now examining, which is marked "Ex. A," annexed to your affidavit, contain a correct representation of the roof as the drawing was prepared by you when submitted to Mr. French?

A. I cannot say that, because I don't know whether it was this drawing or another one. There were several sheets of the drawing. It might have been another drawing which showed the joint in the roof stone.

244 54 Q. Now, the drawing that you did make and deliver to Mr. French, from which he constructed this vault, did that show the joint in the roof stone?

A. I think it must. I think it did.

55 Q. Will you produce those drawings here?

A. Yes, sir.

The paper just shown witness as Exhibit "A," annexed to his affidavit, is marked "Def'ts' Ex. Sectional Drawing by Howland of Beekman Vault, as annexed to motion papers Sept. 25th, 1883."

56 Q. I now show you a paper and ask you to state what it is.

A. It is a sheet of the vertical sections.

57 Q. Of what?

A. A sheet of the vertical sections, transverse and longitudinal, of the Beekman vault.

58 Q. Is that the drawing which you spoke of a few minutes ago as having been made by you and given to Mr. French, from which he worked to build this vault?

A. Yes, sir; these are the drawings that I gave him for that purpose.

The drawing then referred to was then marked "Def'ts' Ex. Original Drawing of Two Sections of Beekman Vault Delivered to Complainant, from which he constructed said vault."

59 Q. Look at the last exhibit. Does that correctly represent the appearance of the roof of the vault when completed and the stones of the roof in position and locked together?

A. Yes, sir; as I understand it, it does.

60 Q. How many stones are represented upon that drawing as composing the roof of that vault?

A. Three.

245 61 Q. Is there a joint between the side roof stones and the capstones?

A. Yes, sir.

62 Q. How are those stones locked together and held in position?

A. The side stones are held by the dowels shown here on the sides.

63 Q. Dowel and lug?

A. Dowel or lug.

64 Q. How is the capstone held?

A. The capstone laps over on the side stones.

65 Q. Is there any other word which expresses that idea of lapping over?

A. No answer.

66 Q. Are there any vertical joints in that roof as represented on that drawing?

A. None that shows—that is, none that are exposed to the weather.

67 Q. Is there any difference—and, if so, what—between the drawing you have in your hand (the exhibit) and the drawing on the patent?

Mr. FLETCHER: I make the same objection concerning his qualifications as an expert.

A. I am unable to see any.

68 Q. I am asking you now to state whether there is or is not any difference.

A. There is no difference.

69 Q. The roof of the vault as shown in the drawings on the patent and the roof as shown in the exhibit you have in your hand are the same, are they?

Same objection.

A. Yes, sir.

70 Q. State whether the roof stones on the last exhibit were continuous from one gable stone to the other at each side.

A. Yes, sir.

71 Q. State whether or not those stones are held to the gable stone by mortise or tenon or equivalent connections.

246 A. There isn't anything here that shows it on the gable.

72 Q. State from your recollection and from your personal knowledge how the roof stone of the Beekman vault was fastened to the gable stone.

A. I have no definite recollection of it just now; it is five or six years ago.

73 Q. Well, the roof stone of the Beekman vault is held to the gable stone in some way, is it not?

A. Yes, sir; that is my impression.

74 Q. Your impression is it is held in some way?

A. I am now trying to draw that distinction between the gable stone and any other stone.

75 Q. I now show you the photograph of the Beekman vault marked "Ex. Photograph," and call your attention to the gable stone as shown in that picture, which is also shown in the drawings on the patent as "A," and ask you how the roof stones of that vault were held in place.

A. By a lug cut not only on the gable stones, but on the side stone from just inside the joint clear back as far as the stone work ran; the rear wall was made of brick.

76 Q. Was the lug cut on the gable stone or the roof stone?

A. The gable stone and the side wall stone.

77 Q. How was the roof stone placed on the gable stone after that lug was out? How was it fastened or held in place by being put on that gable stone?

A. By its own weight.

78 Q. What was there, if anything, made to receive the lug?

A. A hollow in the roof stone.

79 Q. There was a hollow made in the roof stone to receive the lug?

A. Yes, sir; a mortise, in other words.

80 Q. Then the stone was held in place by its own weight?

A. Yes, sir.

81 Q. The capstone of the vault you have already described as lapping over?

247 A. Yes, sir.

82 Q. Did that lap onto the side roof stones?

A. Yes, sir; and acted as a key.

83 Q. Acted as a key and locked the three stones together?

A. Yes, sir.

84 Q. Now, is that shown on your original drawing?

A. Yes, sir; it is shown on the original drawing—the last exhibit.

85 Q. Were the roof stones of the Beekman vault as constructed continuous stones from front to rear?

A. Yes, sir.

86 Q. And was that the plan which you prepared for Mr. French to work by?

A. Not originally.

87 Q. Was it the plan which was ultimately prepared for him to work by?

A. Yes, sir.

88 Q. Is the capstone of the Beekman vault a single piece?

A. From front to rear; yes, sir.

89 Q. And the drawings as prepared for Mr. French from which he constructed that vault showed such a stone?

A. Yes, sir.

90 Q. And where did the capstone rest—upon the gable stones at their ends?

A. Yes, sir; or rather not at the ends of the gable, but in the centre of the gable; at the ends of the vault.

91 Q. And the capstone lapped at each side of it upon the two other roof stones?

A. Yes, sir.

92 Q. And formed, as you have said, a lock or key?

A. Yes, sir.

93 Q. And the stones thus put together were held in place by their own weight?

A. Yes, sir.

248 94 Q. State, if you know, whether the capstone is any heavier than the two side stones; and, if so, the object of having it of any extra weight.

A. I don't know it further than I have every reason to suppose it is on account of the size.

95 Q. I hand you a paper and ask you to state what it is.

A. It is a specification of the contract for the Beekman vault.

96 Q. Made between whom?

A. Gerard and J. William Beekman and French & Co., all of the city of New York.

The paper just referred to was then marked "Defendants' Exhibit Contract between French & Co. and Gerard Beekman, dated 13th July, 1878."

97 Q. How long before the contract marked "Defendants' Exhibit Contract between French & Co. and Gerard Beekman, dated 13th July, 1873," was executed was it that the plans and drawings you have already described for this vault were presented by the Beekmans to Mr. French, upon which he was to make a proposition for the building of the vault?

A. Six months.

98 Q. The contract is dated July 13th, 1878?

A. Yes, sir.

99 Q. And these drawings and plans were given to him about six months prior to that time?

A. I think so, from the fact that Mr. Van Dolsen estimated on the plans in December, and I think Mr. French some weeks afterwards.

Adjourned to October 9th, 1883, at 2 p. m.

249 NEW YORK, *Oct. 9th*, 1883.

Present: Parties as before.

Cross-examination of EDGAR D. HOWLAND by Mr. FLETCHER, as follows:

100 X Q. You testified on your direct examination that you had been engaged as an architect. Where was that?

A. My apprenticeship was here in New York, and in business in Chicago.

101 X Q. How long was your apprenticeship?

A. It is difficult to say, from the fact that it was partly apprenticeship and partly journeymen; one run into the other; but I was partly under instructions from 1851 to 1859.

102 X Q. With whom?

A. Originally with Clarkson Brown; afterwards, William Backus.

103 X Q. Both architects?

A. Both architects; both dead now.

104 X Q. Did you ever attend any technical school of mechanics?

A. No, sir.

105 X Q. Did you ever have any experience in the construction of stone-work especially?

A. What sort of stone-work?

106 X Q. Of any kind?

A. As far as building is concerned, I have.

107 X Q. Anything further?

A. No, sir.

108 X Q. At the time that you first looked into this matter as a vault for Mr. Beekman did you make any drawings?

A. I made preliminary sketches; yes, sir.

109 X Q. Entirely evolved from your own conceptions?

A. Yes, sir.

110 X Q. Without any assistance from any existing models or books?

A. Well, I don't understand what you mean. Do you mean without copying?

250 111 X Q. Yes, sir.

A. Yes, sir.

112 X Q. You consulted no other works in the preparation of your plans?

A. No, sir.

113 X Q. Have you the original sketches that you made at that time?

A. I have not; no, sir.

114 X Q. What has become of them?

A. I gave them to Mr. Beekman.

115 X Q. Did they cover the entire vault?

A. No; the preliminary sketches that I made simply had reference to the front.

116 X Q. To the front?

A. Yes, sir.

117 X Q. Did you make any other sketches of any other part except the front?

A. No, sir; it was not necessary at that time.

118 X Q. Then your sketches were entirely confined to the matter of appearances?

A. Exactly.

119 X Q. And did not involve in any sense the construction or combination of the parts as existing in any of the rest of the vault?

A. Only the construction of the front; yes, sir.

120 X Q. Prior to the erection of this vault in Greenwood did you have any conversation personally with Mr. French, the plaintiff?

A. Before the construction of it; oh, yes, sir.

121 X Q. How long before?

A. I should think six or eight months, perhaps, or very nearly.

122 X Q. Before the determination upon the precise plan upon which the vault was to be constructed did you have any conversation with him?

A. I don't now recollect. I think possibly not. I think that was determined upon before we saw Mr. French, but after we saw him he was there at the office many times until the contract was finally made.

251 123 X Q. Then Mr. Beekman presented to you the modifications of your original idea of the construction of the front of the vault, and also supplied the other considerations and plans as to the erection of the vault, did he?

A. Yes, sir, roughly.

124 X Q. This was changed from time to time until the final model or plan was agreed upon?

A. Yes, sir.

125 X Q. You stated in your answer to the 16th question of the direct examination that "there were no other drawings used except copies of those I made," and in your answer to the 86th question, in which it was asked you, "And was that the plan which you prepared for Mr. French to work by?" you answered, "Not originally." These two seem to be inconsistent. Will you please state, so that it may be clear whether or not there was more than one system of plans made; and, if so, how many?

A. I don't know what that second question refers to. What I meant to say, and supposed I did say, was that, as far as my knowledge serves me, there was only one set of drawings. He may have made drawings in his office, but the contract was made on the plans that I made. Originally the vestibules were covered by stone, but the catacombs were covered with brick arch, so that the stone ran back eight or nine feet. It was finally made to displace the arch and run back so as to cover both the vestibule and catacombs; that is what I meant.

126 X Q. I understand you to say that originally in your talk with Mr. Beekman, Mr. Beekman suggested that the stone work should only run back over the vestibule and not over the catacomb?

A. No, sir; Mr. Beekman never suggested that. That was my own idea; that is the manner in which vaults are usually constructed.

127 X Q. And you suggested that?

A. Yes, sir.

252 128 X Q. And subsequently it was concluded to have the stone run clear back to the rear and rest on the rear brick wall?

A. Yes, sir.

129 X Q. Is that correct?

A. Yes, sir; that did not change the construction, only the area of the roof stone.

130 X Q. Then, so far as you know personally, there was only one set of drawings made prior to the construction of this vault?

A. Yes, sir.

131 X Q. And of how many drawings did that set consist?

A. I think there were only four.

132 X Q. Were they all made in the same pattern and substantially after the same style of drawing and coloring as the one in evidence?

A. Yes, sir.

133 X Q. And produced by you?

A. Yes, sir.

134 X Q. Were those drawings working drawings from which construction could actually be made?

A. Yes, sir; they were drawings from which the full-size drawing could be made readily.

136 X Q. Were those drawings such that a vault could be made from them without any modifications or alterations or additions?

A. Yes, sir.

137 X Q. I refer to those originally made by you?

A. Yes, sir.

Redirect examination by Mr. RANSOM:

138 Q. Did the change in the plans for the construction of the vault, by taking out the brick arch and increasing the area of the roof stones—you say that is by extending the roof stones from the front of the vault to the rear over catacomb—involve any change in the mechanical principle of the construction of the roof of the vault, so far as the roof stones were concerned?

253 A. Not as far as the roof stones were concerned or the cap-stone.

139 Q. Was the vault finally constructed by Mr. French precisely in accordance with the plans that you have already described you made for him?

A. I believe it was.

140 Q. Did you examine the vault from time to time as it was being made?

A. Two or three times.

141 Q. And you saw the roof stones put in place or after they were in place?

A. Yes, sir; after they were in place.

142 Q. And were they put in place finally according to the plans that you prepared, as you have already testified?

A. I can only say they appeared to be—as far as I know, they were.

143 Q. Of course, that is all anybody can say.

A. Yes, sir; if I was there at the time I could testify more accurately.

E. D. HOWLAND.

Subscribed and sworn to before me this 2d day of January, 1884.

EDWARD J. KNAUER,
Special Examiner.

Adjourned to Monday, Oct. 15th, at 3 p. m.

254 NEW YORK, *November 5th*, 1883.

Present: Parties as before.

WILLIAM B. TUTHILL, a witness called on behalf of the defendants, being duly sworn, testified as follows:

Direct examination by Mr. RANSOM:

1 Q. Mr. Tuthill, where do you reside?

A. 1110 Fourth avenue, New York city.

2 Q. What is your business?

A. Architect.

3 Q. How long have you been an architect?

A. Since September, 1876.

4 Q. With whom did you study your profession?

A. Historical architecture with Richard M. Upjohn, composition with Richard M. Hunt, and construction with Maurice Fornachon.

5 Q. Do those gentlemen reside in the city of New York?

A. Mr. Hunt is a resident of the city, and Mr. Upjohn, I believe, lives in Brooklyn, and Mr. Fornachon lives in Ridgewood, New Jersey; and I afterwards practiced with Mr. Fornachon for the space of about eighteen months.

6 Q. You are engaged in that business now?

A. Yes, sir.

7 Q. And your office is where?

A. 52 Broadway.

8 Q. Has your attention heretofore been called professionally to a cemetery vault with a roof constructed of continuous stones and known as a vault constructed as claimed in accordance with the letters patent of the plaintiff in this action, Mr. Hamline Q. French?

A. I was a considerable time with Mr. French—from about May, 1877, until October, 1878, if my memory serves me right, and during the former portion of it I was engaged on the design of a
255 vault, with construction similar, as I understand it now, to that claimed by the plaintiff—similar to the vault set forth in the letters patent.

9 Q. I did not understand what time, what year, and part of the year or month in the year it was that you were working on these designs that you speak of.

A. It would be practically impossible for me to state the exact time.

10 Q. State it as near as you can.

A. I can give you the possible data of the first and the probable date of the final design during my engagement with Mr. French; from May, 1877, to about the latter part of October, 1878.

11 Q. I show you a copy of the letters patent of Mr. French for the construction of the roof to cemetery vaults and ask you to say whether or not the design which you worked on, as you have stated in answer to the last question, was like the drawings of that patent.

A. It was like the drawings of that patent.

12 Q. In respect of what was it similar or like the drawings of this patent?

A. In respect to the roof stones with the gable stones—the overlapping of the crest stone with the roof stones, the connection of the crest stone with the gable stone. You must bear in mind, however, that I do not state that I was engaged on the design of this vault.

13 Q. Was that design for a roof of continuous stones, running from front to rear of the vault?

A. It was, sir.

14 Q. Fastened, as I understand you to say, by dowels and lugs?

A. Yes, sir; it was.

15 Q. With the crest or top roof stone overlapping the other stones?

A. Yes, sir.

16 Q. And where did you get the idea of that design made in that way for the construction of the roof of that vault?

256 A. The instruction was first given to me to design a vault of which the roof stones should be continuous, and that they should be locked together in some manner to the gables, and such consultations as I had with Mr. French after that consisted of a general discussion of the points of the design—that is, as far as my recollection of that work goes.

17 Q. Who gave you the information or the suggestion, if you got any at all from anybody, in respect of the peculiar construction of the roof to a vault as designed by you at that time?

A. It is too far remote to answer definitely as to it. As I stated before, the instructions as to the design of the vault were to design a vault of which the roof stones should be continuous.

18 Q. My question now is, Who gave you those instructions?

A. I don't remember. The instructions were no further than what was stated in the previous answer.

19 Q. Now, is it or is it not claimed by you that you yourself invented, devised, or thought out this plan of constructing the roof of a vault by continuous stones locked together as that design which you made and showed to me?

A. I will not make that claim.

20 Q. Can you remember now who it was, if any one, that gave you the suggestion of that method of constructing the roof of a vault?

A. The only persons connected with it were Mr. French and myself, and if any suggestion came from Mr. French in reference to to the construction he has the credit for it, so far as that is concerned.

21 Q. Well, this design that you speak of that you made, was that made for some customer of Mr. French's?

A. If my memory serves me it was; I knew nothing about his customers.

22 Q. Do you know whether a vault was constructed by any one, or by Mr. French, from the design which you thus made at that time?

257 A. I do not, sir.

23 Q. Have you had any experience in cemetery vault work?

A. I have.

24 Q. Is the use of a continuous roof stone for a cemetery vault a new design or discovery in the construction of cemetery vaults?

A. It is not, sir.

25 Q. Is there anything new in the principle or in the discovery of the manner in which the stones of the roof vault, as claimed in the plaintiff's letters patent, are fastened together?

A. No, sir.

26 Q. Did you make an affidavit in this case some months ago to which you annexed some tracings?

A. I did, sir.

27 Q. Have you heretofore examined any printed publications—and, if so, what—in which there is described any invention or design similar to that claimed by the plaintiff under his letters patent?

A. I have, sir; the Revue Generale de l'Architecture, vol. 13, plates 48 and 44, year 1855.

28 Q. Where did you see that publication?

Objected to as immaterial.

A. At the library of the American Institute of Architects, library of Mr. Richard Hunt, Astor Library.

29 Q. When was that book published, as appears from the book itself?

Objected to as immaterial.

A. 1855.

30 Q. Is that book one of a set of books?

A. It is.

31 Q. Of several volumes?

A. It is, sir.

32 Q. And this volume is No. 13?

A. Yes, sir; No. 13.

33 Q. What is the subject of the work?

A. Architectural matters exclusively.

258 34 Q. How long have you been acquainted with that publication or known of its existence?

Objected to as immaterial.

A. Since 1875—the latter portion of 1875—when I was a pupil of Mr. Hunt. I saw it in his library then.

35 Q. Have you endeavored to procure the book and produce it at this hearing?

A. I have, sir.

36 Q. And you have not been able to do so?

A. No, sir; I have not been able to do so.

37 Q. For what reason.

Objected to as immaterial.

A. For the reason that this was a reference, and people would not trust valuable books in the hands of lawyers for fear they would cut the plates out.

38 Q. Is this publication of considerable value?

A. It is, sir.

39 Q. How much would this set of books cost to get them?

Objected to as immaterial.

A. There are, I think, forty-one volumes of the work and they cost $17 a volume in Paris now—they cost $17 a volume.

40 Q. Can this particular volume be obtained without procuring the entire set?

Objected to as immaterial.

A. I have been so informed.

Mr. FLETCHER: I move to strike out the answer.

41 Q. Where can they be bought?
A. In Paris.
42 Q. They are not on sale here?

Objected to as immaterial.

A. I don't think so; possibly at some second-hand bookstore it might be found.

259 43 Q. Have you at my request within the last day or two made any examination of this publication with a view of ascertaining what was contained therein in respect of any mechanical combination for the construction of structures involving any principle which is included in the principle of the patent?

Objected to as immaterial.

A. I have.
44 Q. Have you made from that book accurate and correct sketches of the drawings which, in your opinion, are pertinent to the inquiry here?

Objected to as immaterial.

A. I have, sir.
45 Q. Have you those here in court?
A. I have, sir.
46 Q. Have you at my request made a translation of such portion of this publication as is descriptive of the drawings which you have just referred to?

Objected to as immaterial.

A. I have, sir.
47 Q. Is that translation correct?
A. It is, sir.
48 Q. Will you produce to me the papers?
A. Here they are (producing papers).
49 Q. I see you have given it in the French and then the translation.
A. Yes, sir; I have given the French and the translation and the tracings or drawings bearing on the same.
50 Q. Have you ever seen the vault in Greenwood cemetery known as the Beekman vault?
A. I have, sir.
51 Q. That vault was constructed by Mr. French?
A. I believe it was, sir.
52 Q. Did you have anything to do with the preparation of the designs for that vault?

260 A. I do not remember, sir. It is my impression that I did not.

53 Q. Do you recognize this photograph which I now show you,

marked "Defendants' Exhibit Photograph Beekman Vault, Sept. 25th, 1883," as the photograph of that vault?

A. I do, sir.

54 Q. Is there any difference in the mechanical principles or in any respect between the Beekman vault—"Defendants' Exhibit Photograph Beekman Vault, Sept. 25th, 1883"—and the structure described in the publication referred to by you under examination just now?

Objected to on the ground that the foundation for an opinion is not yet before the court, in that the publication referred to is not in evidence, and therefore the facts upon which the witness presents an opinion are not present.

A. There is no difference whatsoever in the principles.

55 Q. Is or is not the principle employed in the construction of the roof to the Beekman vault an old principle?

A. An old principle; yes, sir.

56 Q. There isn't anything new in it, is there?

A. Nothing new whatsoever in it.

Mr. RANSOM: I now ask to have marked for identification the paper produced by the witness, which he has already described as the copy of the original and translation thereof from the publication already mentioned by him on his examination to-day, and tracings annexed made by him from such publication of the structures therein described.

Paper marked Plaintiff's Exhibit for Identification, Nov. 5th, 1883.

57 Q. I now call your attention to the photograph of the Beekman vault, known as "Def'ts' Ex. Photograph Beekman
261 Vault, Sept. 25th, 1883," and your translation and tracings from this publication, which you have produced and marked for the purposes of this case "Pl'ff's Ex. for Identification, Nov. 5th, 1883," and ask if there is any difference in principle or in any other mechanical respect between the structure described in that publication and the Beekman vault or a structure which may be constructed in pursuance of the plaintiff's letters patent.

Objected to for the same reason as stated in the last objection, and also at this stage of the proof as irrelevant.

A. There is no difference in principle of construction whatsoever.

58 Q. Now, describe in your own way in what respect the structure described in the publication and the structure described in the plaintiff's letters patent are similar or alike.

Same objections.

A. They both have continuous roof stones which are locked to the gable stones by means of mortises or lugs or shoulders left upon the aforesaid gable stones. They both have ridge or capstones which lap upon both of the continuous roof stones and cover the joint between the same. There is no other essential difference in

construction as appertains to the roof as mentioned in the letters patent.

59 Q. Is it or is it not your opinion that there is no material or substantial difference between the structure described in the publication which you have referred to and the structure described in plaintiffs' letters patent —?

Same objection.

A. There is no difference, in my opinion.

Cross-examination reserved.

262 Adjourned to Friday, Nov. 9th, 1883, at 2 p. m., and Saturday, Nov. 10th, 1883, at 2 p. m.

Before Edward J. Knauer, Esq., special examiner.

NEW YORK, *November 9th*, 1883.

Present: Parties as before.

WILLIAM B. TUTHILL further examined in chief by Mr. RANSOM:

Mr. Ransom offers in evidence vol. 13 of the book or publication entitled "Revue Generale de l'Architecture, vol. 13, 1855," which book or publication has upon its back the name "R. M. Hunt."

Marked Def'ts' Ex. Revue Generale.

60 Q. Mr. Tuthill, I wish to direct your attention to the claims made by the plaintiff in his patent, and in that connection to the structure described in the publication referred to by you in your examination and ask you to state whether or not, in your opinion, the claims by the plaintiff in his patent, which I now show you, are or are not described in any material or substantial part in said publication.

Mr. FLETCHER: I object to the book itself on the ground that the publication thereof has not been sufficiently established, and to the question on the ground that the witness has not qualified himself as an expert for the interpretation of the construction of patents or the claims of patents, nor has he qualified himself to give an opinion concerning the matters inquired of.

61 Q. Before answering my question, Mr. Tuthill, and for the purpose of obviating any objection in respect of the proof that the book "Revue Generale" is a publication, I inquire of you how long you have known of the existence of this book.

263 A. Since the latter portion of the summer of 1875, when I first commenced to study with Mr. Hunt.

62 Q. Where, if at any place, have you seen this book? In what library or libraries?

A. I saw it in the American Institute of Architects, in the Astor Library, and also in Mr. Hunt's library; the same identical book.

63 Q. In the city of New York?

A. Yes, sir.

64 Q. How many years ago is it since you have known that this book was in these libraries?

Objected to as immaterial.

A. Since the time I mentioned—1875.

65 Q. 1875?

A. Yes, sir.

66 Q. State whether or not this is one of the architectural publications extant in this country.

A. It is by subscription, to a certain extent.

67 Q. Is it or — it not a standard authority upon architecture?

A. It is, on the matters that are included in its title-page.

68 Q. Was it a book or publication which was studied by you whilst you were studying your profession of an architect?

A. It was a book of reference only.

69 Q. During your studies as an architect was it or was it not a book referred to by you?

A. Yes, sir; frequently.

70 Q. As an authority upon architecture?

A. Yes, sir; frequently.

71 Q. Is it or is it not a publication used and referred to by architects in their business as an authority upon architecture?

A. It is, as often as they can get hold of it.

72 Q. It is?

A. Yes, sir; as often as they can get hold of it.

Mr. RANSOM: I now repeat the first question.

Objection renewed.

264 A. The principles are identical, absolutely identical.

73 Q. Mr. Tuthill, I ask you to look at this book or publication which I now produce, entitled "Monuments Funeraires," and ask you are you familiar with that publication.

A. I have never seen it, to my knowledge.

74 Q. You have never seen it?

A. No, sir; not to my knowledge.

75 Q. You never have examined this publication?

A. No, sir; not to my knowledge.

Mr. RANSOM: I offer this book or publication in evidence and ask to have it described as Defendants' Exhibit "Monuments Funeraires" and marked on its back R. M. H., and, as the book itself is not to be transcribed in the minutes, I ask that the stenographer shall note that it appears on its title page to have been published in 1863.

Objected to, first, on the ground that the publication of the article is not sufficiently shown by any impression upon it, and, secondly, that foundation for its admission must be laid by testimony prior to its admission in evidence.

76 Q. Mr. Tuthill, I call your attention now to plates 7 and 8 in the last exhibit, and ask you to examine the structures there represented, and to state whether or not, in your opinion, the claims of

the plaintiff in his patent are or are not included in the structures in that exhibit described.

Objected to on the ground that the witness has not qualified himself as an expert for the interpretation of the claims of a patent or for the comparison of structures or drawings or drawings of each other so as to permit the admission of his evidence as an expert.

A. They are so included.

265 77 Q. State whether or not, in your opinion, the structure described in the last exhibit on the plates shown is or is not materially and substantially the same as the structure described in the plaintiff's patent and the claims in the patent described.

Same objection.

A. Substantially the same.

78 Q. And materially the same?

Same objection.

A. Materially and substantially the same.

79 Q. Recalling your previous testimony upon the subject of your working on a design whilst in the employ of Mr. French of a cemetery vault, I inquire whether at that time or about that time anything was said to you by Mr. French or in your hearing by him respecting the vault known as the Beekman vault, in Greenwood cemetery.

A. I frequently heard it mentioned.

80 Q. Do you know either of the Messrs. Beekman?

A. No, sir.

81 Q. Have you ever seen them?

A. Not to my knowledge.

82 Q. Do you know a Mr. Edgar D. Howland?

A. No, sir; not to my knowledge. I do not know the man at all.

83 Q. Had you any communication or interviews with anybody about the time you were working upon the design of this vault on behalf of the Beekmans, as you understood it?

A. No, sir; not to my knowledge.

84 Q. Do you know whether Mr. French, before the construction by him of the Beekman vault, constructed any other vault or any other work in accordance with the design which you were then working upon and which you have already described?

A. I do not, sir.

266 Cross-examination by Mr. FLETCHER:

85 X Q. When did you first see the Beekman vault?

A. I don't remember, sir.

86 X Q. Did you see it in process of construction?

A. No, sir.

87 X Q. Have you ever seen it with the roof removed?

A. No, sir.

88 X Q. Do you know anything further about it except the impression you received from viewing the exterior of it?

A. I saw but a drawing of it, sir; such as were in the tracing book of Mr. French.

89 X Q. Did you make these drawings?

A. No, sir; I did not; I don't think it was possible. My memory of these exact drawings, as stated in my testimony in answer to Mr. Ransom, is very indistinct. I think I stated at that time that I had nothing to do with that vault, and I make that statement again now.

90 X Q. Were these drawings then complete?

A. I do not know, sir.

91 X Q. I refer to the drawings in Mr. French's sketch book. Are those the same that you refer to?

A. Yes, sir; simply a tracing of the general working drawing.

92 X Q. Do you know whether the vault was at that time erected?

A. I am under the impression it was, sir, before I went to Mr. French; at least, I am pretty sure it was commenced before I went there, and my interest in the matter was comparatively slight outside of the production of the drawing. I seldom saw any of the work produced afterwards.

93 X Q. Do you know that the actual structure was made in accordance with these drawings?

A. I do not, sir.

267 94 X Q. Whether or not other drawings were substituted in place of those you are uncertain?

A. Totally unaware.

95 X Q. Then, in your testimony given of the comparative structure of the Beekman vault and the complainant's patent No. 244,224 you give your impression entirely from the appearance of the structure of the Beekman vault and from these drawings, do you?

A. To what drawings do you refer?

96 X Q. The drawings referred to in your testimony.

A. This meeting's testimony?

97 X Q. Yes, sir; just now.

A. No, sir.

98 X Q. From what other source?

A. My recognition of the Beekman vault is from having seen that photograph (pointing to Exhibit Beekman Vault). The plaintiff's exhibit was shown to me as exhibiting the construction used in the Beekman vault. My judgments are entirely based upon the plaintiff's exhibit; I mean the plaintiff's patent 244,224. I know that photograph (indicating) to be the Beekman vault. I think if you will refer to the evidence that you will find the name of Beekman vault was coupled with the question when the plaintiff's patent was handed to me for my opinion.

99 X Q. How do you know that the Beekman vault was constructed according to the complainant's patent?

A. I do not know anything of the sort, sir. I simply stated—will you please turn to the evidence given in reference to the Beekman vault? I think you will find it sufficiently explicit there.

100 X Q. You testified in answer to question 54 substantially that there is no difference whatsoever in mechanical principles between

the Beekman vault and Defendants' Exhibit Photograph
268 Beekman Vault, Sept. 25th, 1883, and the structure described in the publication referred to by you under examination just now.

A. Please read the evidence previous to that, a few questions before that. If I am allowed by counsel to make a statement I will state that the plaintiff's patent 244,224 was handed to me and a statement made, as I understood it, that it was in accordance with the Beekman vault. The name of "Beekman" was connected in some way when the patent was handed to me. I was then asked if I recognized that photograph (indicating) as the Beekman vault. I simply hold to my original statement.

101 X Q. Having refreshed your memory by the extract from the testimony at question 54, will you please give us the foundation of your knowledge of the Beekman vault, so far as concerns the mechanical principles of its construction?

A. In the first place, having seen the tracing in the tracing book of Mr. French at times, and the fact that this patent was handed to me and described to me (whether it appears on the evidence or not) as the construction of the Beekman vault.

102 X Q. Then, if there is any difference between the construction of the Beekman vault and the patent in evidence, your information is incorrect, is it?

A. I don't see that it follows.

103 X Q. You say that you did not know positively that the drawings which you saw in Mr. French's tracing book were the working drawings from which the Beekman vault was actually constructed?

A. Did I say that, sir?

104 X Q. I understood you to say that. Did you not say it?

A. I don't say that I did know that positively.

105 X Q. If you do not know that positively and there is any difference between the construction of the Beekman vault and the patent in evidence marked Complainant's Exhibit, have you any foundation for your opinion?

269 A. I have, sir.

106 X Q. Please give it.

A. The plaintiff's patent No. 244,224, which is exhibited to me, and the model of the vault which I have seen in Mr. French's office, No. 199 Broadway.

By Mr. RANSOM:

107 X Q. You mean the Beekman vault?

A. I don't know whether it was the Beekman vault or not.

By Mr. FLETCHER, resuming:

108 X Q. Do you know that the model which you saw in Mr. French's office was a precise copy of the construction of the Beekman vault?

A. No, sir; I do not. It was examined simply as a patent—a patent model.

109 X Q. How do you know that that was the model of Mr. French's patent that you saw?

A. If my memory serves me correctly, I saw Mr. French there at the time I was there. Afterwards, while waiting for Mr. French, I saw one of his clerks or draughtsmen. I was there in reference to a monument for a gentleman by the name of James Fettretch, and at the same time Mr. French gave me a photograph as a sample of a good monument, which photograph I have forgotten to return to him. That was the time the model was examined, and at another time I saw the clerk.

110 X Q. Have you any other means of knowing that that was a model of the construction as patented by Mr. French in this patent, No. 244,224?

A. None save the statement of Mr. French or his clerk at that time.

111 X Q. Then will you give us in a word the foundation of your knowledge, as a matter of fact, of the precise construction of the Beekman vault?

A. I think I have given that once.

112 X Q. Well, give it again.

270 A. The examination of the drawings casually or otherwise in the tracing book of Mr. French and the plaintiff's patent No. 244,224, which was handed to me as the construction used in the Beekman vault.

113 X Q. Is it possible from the external appearance of a vault similar to the construction described in the patent of H. Q. French, No. 244,224, to determine its mechanical construction?

A. It is possible but not probable. It is very highly improbable.

114 X Q. Could you tell from the external appearance of the Beekman vault precisely what its mechanical construction is?

A. I would not.

115 X Q. Then your knowledge that the Beekman vault was constructed according to the patent No. 244,224 is derived entirely from others, is it not?

A. From others and from drawings, and also from the exhibits.

116 X Q. But you say you are not positive that you ever saw the drawings from which that vault was constructed?

A. I don't think I made that statement; I am not any more positive of seeing these drawings than I am of seeing any other drawing.

117 X Q. You refer to drawings being in Mr. French's tracing book?

A. Yes, sir.

118 X Q. Were they bound in book form?

A. Simply pasted on large pages of manilla paper gummed at the edges and numbered consecutively as they are made and inserted in the book.

119 X Q. Were these the working drawings?

A. They were tracings of working drawings. They are called scale drawings.

120 X Q. Were these tracings which you saw of working drawings or merely of designs?

A. I could not state, sir. It is probable, if I may con-
271 tinue the answer, that each design as soon as it was made, whether executed or not, was traced and the tracing of it put in the book. Sometimes three or more tracings of a design in a similar form would be made involving certain alterations to suit the wishes of a client. They would all be there in the book as examples for future reference.

221 X Q. Defendant's witness, Mr. Edgar D. Howland, testified that the Beekman vault was constructed of three stones running the entire length upon the roof and resting at one end upon a gable stone and at the other end upon a brick wall. Was or was not that the precise construction of the Beekman vault?

A. I cannot state, sir; I cannot state definitely.

122 X Q. Do you know that it was not set on a brick wall?

A. I do not know anything about it.

123 X Q. Look at Defendants' Ex. Revue Generale, at plate 42 of Tombeau de la Famille, A 1 Billaud, and state at what point the section is made.

A. The drawing indicates the middle point of the plan. The section runs through the line of the window.

124 X Q. Look at the longitudinal section appearing on the next page, at plate 44, and state at what point the longitudinal section is made.

A. At the mid axis of the building—the longitudinal axis.

125 X Q. Please look at the model submitted to you and state whether or not, in your opinion, it represents the construction of the Billaud tomb as represented by the drawings in Revue Generale referred to.

A. It does, as far as can be ascertained from the drawings that are set forth.

126 X Q. Is there anything in connection with the description or drawing which shows the size of the actual construction there represented?

A. There is a scale attached to each drawing.

272 127 X Q. About what were the rough dimensions, as near as you can approximate them without your pencil, of that structure?

A. It is very slightly over two metres—two or three decimeters.

128 X Q. In width or in length?

A. In length.

By Mr. RANSOM:

129 X Q. How many feet, about?

A. The metre being about 39 inches, it was possibly 7 feet long.

By Mr. FLETCHER, resuming:

130 X Q. What is the width?

A. It is about four feet wide—that is, in rough figures.

131 X Q. Are these dimensions given at the roof or at the base?

A. They were taken at the extreme length of the span above the line of the altar table. The altar projects into the length of the building.

132 X Q. That is the interior measurement, is it?

A. Yes, sir.

133 X Q. Will you please give us the exterior measurements in feet and inches, as near as you can approximate it, at the roof?

A. Possibly 10 feet from the extreme of the corona.

134 X Q. And how much in width?

A. Five feet four or five inches; at the extreme, five feet 6 inches, rough measurement.

135 X Q. Placing the model upon the drawing, will you state whether or not there is any difference in the size of the two as represented?

A. In cross-section they are as represented.

136 X Q. Longitudinally, are they?

A. In certain respects.

137 X Q. Is there any substantial difference?

A. It cannot be told from the drawing.

138 X Q. In what respects is there an uncertainty?

273 A. The uncertainty is the length of the lugs, shoulders, and dowels that are left on the back of the vault stones.

139 X Q. Then everything which is clear and certain from the drawings is accurately represented by the model?

A. It seems so to be.

140 X Q. And the matters which are uncertain, as appear by the drawings, are represented in a reasonable form, in your judgment, by the model, are they?

A. They are represented in a reasonable form.

Mr. FLETCHER: I offer the model referred to in evidence.

Admitted and marked "Complainant's Exhibit Model of Billaud Vault, Nov. 9th, 1883, E. J. Knauer, special examiner."

The same is represented by plates 42, 43, and 44 in the Exhibit Revue Generale.

141 X Q. Look at the lower drawings of the cross-section upon the sheet now handed to you and state if, in your opinion, it is a fair representation of the section of the Billaud tomb, as appears by the Revue Generale?

A. It is.

142 X Q. Will you look at the upper drawing upon the same sheet and state whether or not that is an accurate cross-section of complainant's structure as described in the letters patent No. 244,224, at the center line thereof?

A. Yes, sir.

The drawing referred to is offered in evidence and marked "Compl't's Ex. Comparative Drawing in Cross-section of Compl't's Structure and of the Billaud Tomb."

143 X Q. Please look at the second drawing of the longi-
274 tudinal section upon the sheet shown you and state whether that, in your judgment, is an accurate representation of the longitudinal section of the Billaud vault as appears in the Revue Generale?

A. It is, sir.

144 X Q. Please look at the upper drawing upon the same sheet and state if that, in your judgment, is an accurate representation of the longitudinal section at the mid axis of the structure shown and described in complainant's patent No. 244,224.

A. It is, with the exception that I am unable to say anything about the back gable stone.

Sheet referred to offered in evidence and marked "Compl't's Comparative Drawing in Longitudinal Section of Compl't's Structure and of the Billaud Tomb."

145 X Q. Referring to the description of the Billaud vault, as appears from page 353 to 359 of the same book, inclusive, will you state what parts of the texts refer to the construction of the roof of the vault?

A. Page 355, first column, beginning with the 31st line, continuing thence three lines, and commencing with the 37th line and running three lines, page 356, commencing with the 7th line, continuing 11 lines to the end of the paragraph.

146 X Q. Will you please translate the first excerpt?

A. Page 355, commencing with line 31: "The monument illustrated by plates XXXIX, XL, XLI, XLII, XLIII, XLIV, and XLV, erected in 1847 as a place of burial for the family of Alc. Billaud, is exactly as represented." The second extract, page 365, is as follows: "Above this ordonnance extends an entablature on which is supported the two sloping sides of the roof which finish the edifice." The extract on page 356 is: "The entablature is composed of three stones, hollowed out so as to form a species of vault, which masks the size, and these stones jointed together by rebates, are bound
375 and, as it were, tied together by the two thick slabs of stone which cover their sloping sides by means of the hollow made on the lower sides of the former (the slabs) in order to clamp the projections retained on the stones of the vault. These stones are, in their turn, tied together by the ridge which surmounts the building."

147 X Q. Is there anything in the description as given in the text which gives an accurate or technical idea of the detail of the construction?

A. Yes, sir.

148 X Q. What parts especially refer to those matters?

A. The last extract, page 356, where it says, "The entablature is composed of three stones."

149 X Q. That says that the entablature is composed of three stones hollowed out so as to form a species of vault. What do you understand from the drawings and from the additional text

that the especial purpose of that vault as formed by these three stones is?

A. The building is of very small size—very limited dimensions. The under surface of the roof, if left alone, untreated in its angular form, would be crude in effect. You will notice by reference to the plate the proportion of the edifice is so much lessened, firstly, by the extra depth of the vault stone, and, secondly, by the treatment which is possible on these vault stones and which would be scarcely applicable to the roof stone *per se;* it is an artistic device.

150 X Q. It is solely an artistic device?

A. The vault is solely an artistic device. It is made, however, to conform to the construction and bearing an element in the construction. It might be entirely left out of the construction as exhibited there on plate 44 of the Defendants' Exhibit Revue Generale. The vault stones might be omitted from the line of the interior faces of both ends of the vault, as far as the construction is concerned.

276 151 X Q. Then from that point at either end the vault stones are superfluous, are they, as matter of construction?

A. As matter of construction; yes. May I add further?

152 X Q. Yes, sir.

A. The front and rear vault stones are, in fact, gable stones, that portion which which forms the ceiling of the vault simply existing in the form of a projection left upon the vault stones. Considered technically, both the end vault stones are gable stones.

153 X Q. Supposing the end vault stones consisted of a plain slab not extending inwardly toward the centre of the vault beyond the wall which supported them, what would prevent the stones lying above them from sliding off laterally?

A. That is the point which is left uncertain by the drawings and which is assumed by the model set forth (witness referring to Complainant's Exhibit Model of the Billaud Tomb). I would like to further state in the light of the question asked by the counsel and on the necessary assumption that is to be made by the examination of the drawing (it is assumed in the model) that were these projections left out from the inner line of the wall which supports them (*i. e.*, the plain status of the question) as absolutely and strictly gable stones, the construction of the vault as indicated by the drawing and as further described by the text warrants and upholds the presumption that the lugs, shoulders, or mortises would be still left on the gable stones themselves for the support of the roof.

154 X Q. Then that is purely an assumption from the present light which you have arising from the construction of the patent in suit, is it not?

A. It is an assumption based on the question of the counsel to which the assumption was given in answer—that is, were the gable stones left off what would prevent the centinuous roof stones from sliding out of their positions.

277 156 X Q. Is there anything in the drawing or the text to indicate that the hollowed or grooved vault stones might be left out?

A. There is not, sir.

157 X Q. That, then, is purely reasoning upon possibilities of construction and not upon the construction as actually shown, as I understand you?

A. It is not, sir. The construction actually shows, and the description actually points out, that on each of the vault stones is left a shoulder or a tenon which is engaged by a hollow that is left in the bottom of the continuous roof stones. The extreme vault stones are also gable stones. Whether the projection inward to the centre of the vault is a centimetre or whether it is five miles, it is a gable stone. It is a gable stone, and you cannot take from it the character of a gable stone; whether that lug or shoulder was on the extreme interior edge of the gable stone or vault stone does not signify. It is on a gable stone.

158 X Q. The text confines you to a panel or raised surface upon all three of the vault stones.

A. Yes, sir.

159 X Q. That is the means by which the roof stones are held in place, is it not?

A. Yes, sir.

Adjourned till Monday, November 12th, 1883, at 3 p. m.

278 Before Edward J. Knauer, Esq., special examiner.

NEW YORK, *November 17th*, 1883.

Present: Parties as before.

Continuation of the cross-examination of Mr. TUTHILL by Mr. FLETCHER:

160 X Q. Then I understand you that, so far as the construction of the Billaud vault is concerned, that the vault stones, except those in line with the front and rear walls, might be removed and the structure remain the same?

A. The centre vault stone might be removed and in no way alter the construction.

161 X Q. Why does not the same reasoning apply to the projections upon the external vault stones within the line of the front and rear walls?

A. Because the external vault stones, or, as it is understood by the witness, meaning the front and rear vault stones, are really gable stones. The lug or the shoulder is upon them. Should the end vault stone be taken out and the centre one be left in position the roof stones might still be retained in position, but without any security whatsoever.

162 X Q. Then, as I understand you, either one or the other is necessary to the complete construction of the Billaud vault. Either the middle vault stone must remain or the internal projections beyond the line of the front and rear walls upon the outer vault stones must remain. Am I correct?

A. I recalled the answer to question marked 161 X Q., because from the text, as given in the Defendants' Exhibit Revue Generale,

the lug or shoulder which exists upon the end vault stones covers the back of the said vault stones, including the projecting portion.

163 X Q. Please point out the part of the text to which you refer.

A. Page 356 of the Defendants' Exhibit Revue Generale, line 12.

279 164 X Q. Please give the precise words in English?

A. "In order to clamp the projections retained (or reserved) upon the stones of the vault."

165 X Q. In that text is the location of the clamping parts stated?

A. It is not, sir.

166 X Q. Might not, then, the projections upon the outer vault stones within the line of the front and rear walls on the Billaud vault be removed, provided the centre vault stone was allowed to remain? By external or outer vault stones I refer to those stones represented in the model of the Billaud vault by the numbers 3 and 5, and by "internal" vault stones I refer to the part numbered 4 in the same model, which is the centre vault stone.

A. Yes, sir.

167 X Q. So that, in your judgment, no matter where the raised surface upon the vault stones lies, the construction of the Billaud vault would be substantially the same, provided the roof stones were held by such projection somewhere?

A. Yes, sir.

168 X Q. Please look at Complainant's Exhibit "H. Q. French's Patent, No. 244,224," and state what you consider the invention set forth and described in the specification as illustrated by the drawings.

A. In my opinion, there is no invention.

169 X Q. Is there one alleged therein?

A. There is.

170 X Q. What is it?

A. It is stated by the patentee, Hamline Q. French, in line 28 of the specification of the patent No. 244,224, where it is stated "my invention is shown in the accompanying drawings forming part of this specification, wherein," &c.

171 X Q. Is that all?

A. That is all.

280 172 X Q. Please state the parts of the specification which set forth what is claimed to be new and to be an invention of Mr. French's.

A. In the specification of the patent 244,224, commencing with line 72, the text reads, "Having thus described my invention, I claim as new and desire to secure by letters patent:

"1. A roof for vaults and similar structures consisting of the continuous roof stones B B, gable stones A, connecting and locked to the roof stones, and the capstone C lapping upon the roof stones, substantially as shown and described.

"2. In roofs for vaults and similar structures the combination of continuous roof stones B B and gable stones A A, connected and

locked by mortises and tenons or equivalent devices, substantially as shown and described."

173 X Q. Is that all?

A. That is all, sir.

174 X Q. Are the gable stones claimed to be new?

Mr. RANSOM: I object to that question. I think the patent itself speaks what is claimed and what is not claimed to be new. I don't think the witness ought to give his opinion in regard to it.

A. The gable stones are claimed to be new in so far as they are used in reference to the shoulder, lug, or tenon which is claimed as an invention.

175 X Q. Then, in your opinion, the shoulder, lug, or tenon is claimed by the specification to be new, is it?

WITNESS: I desire to amend the answer just given. The gable stones are claimed to be new in so far as they are used in connection with the lug, shoulder, or tenon, the combination of which is patented.

176 X Q. Is the shoulder, lug, or tenon separately or in combination with the gable stone or roof stone claimed to be new?

281 A. It does not appear to be so claimed.

177 X Q. To what do you refer by "shoulder?"

A. The part set forth in complainant's patent No. 244,224, as marked "*b*" on the diagram.

178 X Q. Then you intend by the shoulder, lug, or tenon to refer, by the various terms, to the same article?

A. The same article; yes, sir.

179 X Q. Do you apprehend that the roof stones, as set forth in the patent, are claimed to be new?

A. The impression conveyed would be such.

180 X Q. Do you understand that the capstone set forth in complainant's patent is claimed to be new?

A. The impression conveyed would be such.

181 X Q. Then, in your estimation, each and every one of these elements separately are claimed by the complainant in his patent to be new?

A. In their combination.

182 X Q. Are they separately?

A. It does not appear to be so stated.

183 X Q. Then, by your former testimony, you meant to be understood that those elements are claimed to be original only as they appear by the combination of the five stones. Is that correct?

A. That seems to be correct; yes, sir.

184 X Q. Then you understand that the roof, consisting of five stones as a unit, is the patented article. Is that correct?

A. It is the article that has been patented.

185 X Q. Is there no difference between the two claims of the patent, in your judgment?

A. There does not appear to be any essential difference in the two claims.

186 X Q. Do you regard the capstone, as is represented by complainant's patent, to find a mechanical equivalent in the ridge stone, marked by the number 6 in the Exhibit Billaud Vault?

A. I do.

187 X Q. In each and every particular?

A. In principle the same.

282 188 X Q. Does the ridge stone in the Billaud vault project through the roof stone so as to meet at any point the external vault stones represented by numbers 3 and 5 in the model of the Billaud vault?

A. It does not. The fact does not alter the similarity of construction.

189 X Q. In your judgment, the capstone of complainant's vault performs no functions not performed by the ridge stone in the Billaud vault?

A. No, sir.

190 X Q. Suppose the two stones which you regard as the equivalents in each and both these vaults were removed, would the result be the same in both instances?

A. As far as the stability of the vault is concerned; yes.

191 X Q. So far as the utility of the vault is concerned?

A. No; in so far as in one instance it would be decidedly open to the weather, and in the other the weather might get in after a fashion.

192 X Q. In one instance it would be substantially without a covering, and in the other instance it would be simply a covering which would be open to attack from the weather, as I understand?

A. Yes, sir.

193 X Q. In one instance, to wit, that of the Billaud vault with the ridge stone removed, you would find simply an exposed vertical joint, and in the other instance, to wit, the H. Q. French vault with the capstone removed, you will find substantially an uncovered interior?

A. Yes, sir.

194 X Q. Please look at plates 7 and 8 of Defendants' Exhibit Monuments Funeraires and state wherein you find the elements of the H. Q. French vault.

A. I find the continuous roof stone which is locked to the four walls of the vault by means of the shoulders or dowels, lugs or tenons.

283 195 X Q. Of how many continuous roof stones does the structure depicted in those plates consist?

A. It is one complete roof stone for each section of the monument—the lower and upper section.

196 X Q. Then, as I understand you, in place of the three stones composing the covering part of the roof as shown and described in the complainant's patent you find in the structure shown in these plates 7 and 8 one stone; is that so?

A. Yes, sir.

197 X Q. You consider that that constitutes no material difference between the two constructions, do you?

A. I hold that the same principles that generated one would with conditions changed generate the other.

198 X Q. What conditions changed?

A. The exigencies, such as difference of size, difference of purpose, difference of location, and difference of means.

199 X Q. In plates 7 and 8 of Defendants' Exhibit is there a gable stone exhibited?

A. Not directly as such; indirectly as such.

200 X Q. What do you regard as indirectly performing the functions of a gable stone in this structure shown in plates 7 and 8?

A. The term would be used of the smaller end of the vault. In the building parlance of the day we call the side wall of an ordinary dwelling-house, though having nothing to relate to the strict form of a gable, a gable wall.

201 X Q. Do you regard the side walls as shown in the drawings upon plates 7 and 8 as an equivalent to the gable stones as exhibited by the H. Q. French patent?

A. I do not hold those to be gable stones at all. I hold the end walls as equivalent; the end walls, not the side walls.

202 X Q. Is there any end wall shown in the structure upon plates 7 and 8?

A. Yes, sir.

284 203 X Q. Where are they?

A. They are shown in plan on plate 8, the figure in the central lower portion of the page, and on the same plate in section, on the central upper figure of the page.

204 X Q. Is there anything in the drawings to show to what height the walls extend?

A. The scale.

205 X Q. To what height as determined by the scale do they extend?

A. According to the scale measured on the inside from the lower line of the roof stone to the lower line of the base stone on which the sarcophagus rests, 47 inches and 23 hundredths of an inch.

206 X Q. Is it possible, by the drawings before you, to determine whether or not the roof stone rested upon the end stones?

A. It is shown in the drawing to be so.

207 X Q. Then you understand the large drawing at the centre and top of the plate 8 to be a longitudinal section, do you?

A. I do not; it is a cross-section.

208 X Q. Is there any longitudinal section of that tomb, Dumar L. Lefebvre, shown?

A. There is not; no, sir.

WITNESS: I wish to correct the answer given to cross-question 203, omitting the sentence "and on the same plate in section, on the central upper figure of the page."

209 X Q. Then is there anything upon the drawings as shown in plates 7 and 8, referred to, to indicate what was the connection between the front and rear walls and the roof stone at the top?

A. Nothing to show definitely.

210 X Q. In the absence of a longitudinal section or of a drawing which shows the connection of which I inquired in the last interrogatory, are you able to say positively what the means of connection between the end stones and the roof stone was in the Dumar L. Lefebvre tomb?

285 A. From the drawings, no; if there is a text in the book it might be so stated. From the indications of the drawings presented on plate 8 there will be a strong presumption in favor of the connection.

211 X Q. Is there any text in connection with the plates from which you can determine any of these facts?

A. Not having examined the books, I cannot say.

212 X Q. Please examine it and state.

A. There is a text.

213 X Q. Please refer to and quote the parts of the text illustrative of the point in question.

A. It does not touch upon the point in question.

214 X Q. Is the text referred to any more than an index?

A. It is not.

215 X Q. What is the length and breadth of the upper roof stone in the Lefebvre tomb, as shown by the scale, from the extreme external point?

A. 47½ inches by about 82½.

216 X Q. Is there anything shown in the drawings upon plates 7 and 8 which shows the precise form of what you stated before might be an equivalent of a gable stone?

A. It is shown in the front elevation on plate 7, the upper figure. The front elevation indicates a hollow, ornamented surface.

217 X Q. Do you understand that that surface in itself is attached to or cut upon the end wall stone?

A. If my judgment of the plan is correct, I should say that it was doweled to the end wall stones of the tomb.

218 X Q. At the top?

A. It was doweled to the end walls of the tomb.

219 X Q. At both top and bottom?

A. I don't make such a statement.

220 X Q. Then you are unable to state whether it is doweled at the top from the plates before you?

A. I am able to state it was doweled to the end stone of the vault, as appears in the plan.

286 221 X Q. Are you able to state positively, as appears from the plan, that it is doweled to the roof stone?

A. My judgment would be that it is not doweled to the roof stone. I further state that the end walls of this tomb, as shown from the plan, seem to be composed of two parts, one the ornamental part and the other the constructive part. It might be so taken.

222 X Q. And does the cross-section exhibit any such relation of parts?

A. The cross-section does not.

223 X Q. Then from the measurements, as appearing from the

two scales on plate 8, is it possible to judge of the relation of the parts as exhibited by the two drawings?

A. It is very difficult so to do.

224 X Q. The scales are different, are they not, on the two drawings?

A. They seem to vary.

225 X Q. As applied the one to the other, are you able to reconcile them so as to make it appear definite about whether the wall is single or double or what the precise measurements of the wall as constructed in the tomb were?

A. With a hasty examination, such as must be given in the reference, it would be impossible to state definitely. A perfect reconciliation might be made after mature study of the drawings on the plates cited.

226 X Q. The side walls of the upper section or chamber, as appears in the cross-section of plate 8, consists of single slabs, do they not?

A. It would so appear from the drawings.

227 X Q. And thin in proportion to the height and length?

A. Not necessarily so, sir.

228 X Q. As appearing from the scale and proportions shown in the drawings, are they not so?

287 A. The proportion of the width of the slab to the height of the slab is about as 7 to 39.

229 X Q. And upon the same basis what would be the figure which would show the proportion of the length to the thickness and height?

A. The length not being definitely laid out on the drawings on the same basis of the necessarily hasty examination of the book in evidence, it would be difficult to state.

230 X Q. Are you positive that their length must be greater than their thickness?

A. I am positive that the length of those side slabs in the upper section must be, from an examination of the drawing, greater than their thickness.

231 X Q. Many times as great?

A. It might be roughly averaged.

232 X Q. Please average it.

A. The proportion, very roughly given, of their thickness to their length would be about as one to twelve.

233 X Q. Then from all these figures I understand that these side walls represent substantially slabs resting upon their edges. Is that so?

A. It would so seem to be indicated.

234 X Q. Then for the construction of a permanent tomb would it be safe to allow those side walls or slabs to stand unsupported?

A. They are not represented as unsupported in the drawings.

235 X Q. What supports them?

A. If a tomb should be constructed according to the drawings given in plate 8 of Defendants' Exhibit Monuments Funeraires the same principle which has produced the cross-section would produce

a construction in longitudinal section, or at least in some respects similar, and it would be fair to presume that if in the cross-section these vertical slabs are tied into or tied together by the roof stone of the section by means of the shoulders that are left upon
288 the side slabs engaged with mortise cut in the under surface of the roof stone that the same construction would be used with the end stones which are not shown either in the section or elevation.

Motion made by the complainant's counsel to strike the answer out as not responsive.

236 X Q. Is not the function of the mortise and tenon, as appears in the cross-section in the central drawing at the top of plate 8, especially to hold the side wall consisting of this slab permanently in place in its vertical position?

A. It is.

237 X Q. Then, so far as the roof stone is concerned, it performs the function of holding the side wall in a vertical position by means of the mortise and tenon rather than being held in position by the side wall, so far as preventing its slipping sidewise is concerned. Is that so?

A. It is, but the tendency to slip sidewise in the roof stone that is laid on a horizontal bed joint is, according to all principles of building, *nil.*

Redirect examination by Mr. RANSOM:

238 Re-D. Q. Take "Complainant's Exhibit Model Billaud Vault" and compare it with "Complainant's Comparative Drawing in Cross-section of Complainant's Structure and Billaud Tomb," the drawing referred to being the cross-section of the Billaud tomb. Does or does not the cross-section of the model correspond precisely to the section of the Billaud tomb given on said exhibit?

A. It does.

239 Re-D. Q. What are gable stones in any structure?

A. They are the stones which compose the end walls of a structure. According to Gwilt, they are the triangular pieces of stone—vertical pieces of stone, triangular and vertical from the line of the eaves or gutter up to the ridge.

289 240 Re-D. Q. Is or is not their technical appellation altered by an exigency of form?

A. It is not, sir.

241 Re-D. Q. Does not the definition wholly apply to their relative position in structures?

A. It does.

242 Re-D. Q. Are or are not, according to this definition, the end vault stones in "Defendants' Exhibit Revue Generale" real gable stones?

A. They are.

243 Re-D. Q. Are these the stones which have to-day been designated by Mr. Fletcher, in his examination of you, the external vault stones?

A. They are, sir.

244 Re-D. Q. Is the drawing of a cross-section confined always to the same plane?

A. It is not.

245 Re-D. Q. Is it or is it not frequently made to show the section on several planes?

A. It is frequently so made.

246 Re-D. Q. What do you mean by plane?

A. Geometrically, a plane is a surface which has length and breadth but no thickness. It is such that if any two points should be taken in the surface a straight line joining them would lie wholly in the plane. An infinite number of infinitely thin planes may be conceived to pass through any object or structure either vertically or horizontally or otherwise.

247 Re-D. Q. Could the cross-section of the complainant's patent No. 244,224, as set forth in the "Complainant's Exhibit Comparative Drawing in Cross-sections of Complainant's Structure and of the Billaud Tomb," be taken as a section at points other than the mid axis and be equally valid?

A. It might be so taken.

248 Re-D. Q. Could the cross-section given in "Defendants' Exhibit Revue Generale," and also set forth in "Complainant's Exhibit Comparative Drawing in Cross-section of Complainant's Structure and the Billaud Tomb," also equally well represent the construction at points other than through the axis of windows, as stated in your testimony?

290

A. Yes, sir.

249 Re-D. Q. Does the drawing representing the cross-section of the Billaud vault in "Complainant's Exhibit Comparative Drawing in Longitudinal Section of Complainant's Structure and of the Billaud Tomb" show the tenon or shoulder by which the roof stones are secured upon the gable stones?

A. It does not.

250 Re-D. Q. Does or does not the drawing representing the section of complainant's vault in "Complainant's Exhibit Comparative Drawing in Longitudinal Section of Complainant's Structure and of the Billaud Tomb" show the tenons or shoulders by which the roof stones are secured upon the gable stones?

A. It does not, sir.

251 Re-D. Q. Does or does not the complainant's model of the Billaud vault show the shoulder, lug, or tenon on the gable stone by which the roof stones are secured to the gable stones?

A. It does.

252 Re-D. Q. Does or does not the Defendants' Exhibit Revue Generale give any authority for stopping the shoulder or tenon or lug on the gable stones of the inner wall line in the manner shown in the complainant's model of Billaud vault?

A. It does not.

253 Re-D. Q. Does or does not the Defendants' Exhibit Revue Generale give any authority for the lug, shoulder, or tenon on the gable stones thereof in the same relative position to the inner wall

"as appears from the position of the lug, shoulder, or tenon on the gable stone of "Complainant's Exhibit Model of H. Q. French Vault?"

A. Defendants' Exhibit Revue Generale gives authority positively for a lug, shoulder, or tenon upon the gable stone of the structure for the purpose of retaining and keeping in place the roof stones, and there is as much authority for the lug,
291 shoulder, or tenon extending even to the outer line as that it should stop on the inner line, as appears to have been done on Complanant's Exhibit Model Billaud Vault.

254 Re-D. Q. Taking the Defendants' Exhibit Revue Generale as the guide and authority for the construction of a tomb as thereby described, would you or would you not place the lug, shoulder, or tenon on the gable stone thereof, as it is placed in Complainant's Exhibit of Billaud Vault?

A. No.

252 Re-D. Q. Why not?

A. Because carrying the lug, shoulder, or tenon more closely to the outer line and well over the vertical member of the gable stone would give to the lug, shoulder, or tenon greater strength, and thereby necessarily to the roof and to the structure.

256 Re-D. Q. Are not all the vault stones, as set forth in Defendant's Exhibit Revue Generale, provided with shoulders, lugs, or tenons?

A. Yes, sir.

257 Re-D. Q. How do you demonstrate that Exhibit Revue Generale gives authority for your statement that the vault stones are provided with lugs, tenons, or shoulders?

A. By the text already introduced in evidence.

258 Re-D. Q. Please look at the text on Defendants' Exhibit Revue Generale, referred to by you, and read your authority.

A. It commences at page 356, line 12, and reads: "In order to clamp the projections reserved upon the stones of the vault." All the words referring to the stones are in the plural.

259 Re-D. Q. What do you understand to be referred to by the word "projections" in the text?

A. That which has been described in the testimony as the "lug, shoulder, or tenon."

260 Re-D. Q. What is the object and purpose in a structure of such as Defendants' Exhibit Revue Generale and the Com-
292 plainant's Exhibit H. Q. French Vault of the tenons, lugs, or shoulders, as shown thereon?

A. To retain the roof stones in position, primarily.

261 Re-D. Q. Are the roof stones of the structure shown in Defendants' Exhibit Revue Generale mortised for the purpose of fitting over onto the lugs, shoulders, and tenons of the vault stones, so as to hold them in place?

A. Yes, sir.

262 Re-D. Q. Is this described in the text of Defendants' Exhibit Revue Generale?

A. Yes' sir.

263 Re-D. Q. Please read it.

A. "The entablature is formed of three stones hollowed out in the manner of a vault which masks the size, and these stones, bound together by rebates, are bound and, as it were, tied together by the two slabs of thick stone which cover their sloping sides by means of the hollow which is made on their lower faces in order to clamp the projections reserved upon the stones of the vault."

264 Re-D. Q. Are the roof stones of the Complainant's Exhibit H. Q. French Vault mortised to fit upon the lugs, shoulders, or tenons upon the gable stones thereof in the same way and for the same purpose?

A. Yes, sir.

265 Re-D. Q. Are the roof stones as set forth in Defendants' Exhibit "Revue Generale" continuous?

A. Yes, sir.

266 Re-D. Q. And in that respect are the roof stones of the structure shown in that exhibit and described in the text the same as the roof stones of the Complainant's Exhibit H. Q. French Vault?

A. They are.

267 Re-D. Q. Is there any difference in the principles of construction involved in the ridge stones of Complainant's Model of
293 Billaud Vault and the ridge stone of Complainant's Exhibit H. Q. French Vault?

A. No.

268 Re-D. Q. The purpose of the ridge stone in both structures is what?

A. It is to complete the roof and properly join and tie the roof stones together and at the same time, by the mechanical contrivance of the lugs, shoulder, or tenons, further bind in their places the gable stones of the structure.

269 Re-D. Q. The ridge stone of both structures is also so made as to lap the roof stones, is it not?

A. Yes, sir.

Adjourned to Friday, November 23d, at 3.30 p. m., for the continuation of the redirect examination of the witness, and also to Saturday, November 24th, for the purpose of permitting Mr. Fletcher to examine the witness on recross-examination.

NEW YORK, *November 30th*, 1883.

Present: Mr. Bunnell and Mr. Ransom.

Redirect examination of WILLIAM B. TUTHILL continued.

By Mr. RANSOM:

270 Re-D. Q. I call your attention to your cross-examination, cross-question 166, and ask you what did you understand Mr. Fletcher to mean by his use of the word "projections" in that question.

A. The portion of the vault stones beyond the inner lines of the end walls of the vault.

271 Re-D. Q. I now call your attention to cross-question 167, and ask you if you understand the use of the word "projection" in that

question to mean the same as the word "projections" in the previous question 166.

A. I do not. I understand by the word "projection" in this question what has heretofore been designated by the words "lugs," "shoulder," or "tenon."

294 272 Re-D. Q. I still invite your attention to cross-question 167 and ask what you understand to be the meaning of the words used in that question by Mr. Fletcher, "raised surface upon the vault stone."

A. It means that which has been heretofore designated as "lug," "shoulder," or "tenon."

273 Re-D. Q. The precise meaning, then, of cross-question 166 and your answer thereto is that the removal of the projections upon the outer vault stones within the line of the front and rear walls of the Billaud vault would remove necessarily that part of the lug or tenon which appears upon the vault stones within that line?

A. Yes, sir.

274 Re-D. Q. Does it follow that the removal of what was called by Mr. Fletcher "projections" on the outer vault stones within the line of the front and rear walls of the Billaud vault would necessarily remove from that structure, as represented by the publication to which your attention has heretofore been called and the text explaining the same, the lugs, shoulder, or tenons upon the outer vault stones of that structure?

A. No.

275 Re-D. Q. Why not?

A. Because the Complainant's Exhibit Model of Billaud Vault is constructed upon the assumption that the lug, shoulder, or tenon upon the outer vault or gable stones of the structure is entirely within the line of the front and rear walls thereof, which assumption is not probably correct. The lug, shoulder, or tenon of that structure, as shown in the publication referred to, undoubtedly extends over the inner line of the structure.

276 Re-D. Q. Is it your opinion, from an examination of the said publication (Defendants' Ex. Revue Generale), that the Billaud vault was constructed with a lug, shoulder, or tenon upon the outer vault or gable stone thereof in a position similar to that
295 of the lug, shoulder, or tenon upon the complainant's model vault?

A. Yes, sir.

277 Re-D. —. You state in your cross-examination, cross-question 166, that the projections on the outer vault stones within the inner lines of the front and rear walls of the Billaud vault might be removed, provided the centre vault stone was allowed to remain.

A. I did.

278 Re-D. Q. Should these projections be removed does it follow that the whole of the shoulder or tenon on the gable stones would also be removed?

A. It does not.

279 Re-D. Q. Why?

A. Because no data are given for the length or extent of the

shoulders on these gable stones. The proper assumption would be that they extend over and upon the vertical member of the gable stones. The inference is strengthened by the detail of the lug, shoulder, or tenon, as given in the cross-section of the Billaud vault. Technically, it was not necessary for the safe and secure retention of the roof stones in position that the shoulder should have been of the width marked. One-half would have been amply sufficient. The designer, however, has been justly careful that the shoulder should extend well down over the line of the side wall.

280 Re-D. Q. You stated in your previous testimony that in the Billaud vault the vault stone. As vault stones were an artistic feature, is the introduction of the internal vault stone No. 4 on the complainant's model Billaud vault into the construction of the tomb necessary or incidental?

A. Incidental.

281 Re-D. Q. Would the roof stones be held with sufficient security or as securely as indicated in the complainant's model vault should this lug on the internal vault stone be removed?

A. Yes, sir.

296 282 Re-D. Q. Can you demonstrate this?

A. Yes, sir.

283 Re-D. Q. How?

A. By a comparison of the cubic contents of both of the roof stones, as given in the Complainant's Exhibit Model Vault and Complainant's Exhibit Model Billaud Vault, with the area of the lugs, shoulders, or tenons by which they are retained.

284 Re-D. Q. Explain briefly.

A. The number of cubic inches of roof stone in the complainant's model vault to each square inch of shoulder which retains it in position is about 345. The number of cubic inches in the roof stone of Complainant's Exhibit Model Billaud Vault to each square inch of lug, shoulder, or tenon which retains it in position is about 22. Should the internal vault stones in Complainant's Exhibit Model Billaud Vault be omitted the number of cubic inches in the roof stone of the said vault to each square inch of the remaining shoulder, lug, or tenon on the gable stones of the structure would be about 46; so that by comparison of the two structures, namely, Complainant's Exhibit Vault and Complainant's Exhibit Model Billaud Vault, the lug, shoulder, or tenon on the Billaud vault upon the internal vault stone thereof is entirely unnecessary as an element of the safe construction of that vault, and might well be entirely removed and the roof stones still be securely held in place by the lug, shoulders, or tenons upon the outer vault or gable stones of the structure with even greater strength than the same stones are held in place upon the Complainant's Exhibit Vault by the lugs, shoulders or tenons which he has placed there. The ratio between the area of lugs and shoulders on the two gable stones of complainant's model vault and the gross cubic contents of the one roof stone held in position by two lugs, being taken as the modulus, the lugs, shoulders, or tenon on each external vault or gable stone of Complainant's Ex-

297 hibit Model Billaud Vault would, to hold in position one

roof stone, be about 8″ x 7¼″. The extent of the lug or tenon to hold one roof stone of Billaud vault in position is, according to model and drawings, about 23½″ x 81″.

285 Re-D. Q. How many parts or stones, then, are essential to the construction of the roof of the Billaud vault?

A. Five.

286 Re-D. Q. What are they?

A. Two gable stones, with shoulders, lugs, or tenons engaging in mortises in the under sides of the two continuous roof stones, which in their turn are tied together by an overlapping ridge stone.

287 Re-D. Q. Is the ridge stone of Complainant's Exhibit Vault essential to its completeness?

A. Yes, sir.

288 Re-D. Q. Is the same true of the ridge stone of Complainant's Exhibit Model Billaud Vault?

A. Yes, sir.

289 Re-D. Q. Mechanically, would it not be considered as defective to omit the ridge stone in the Billaud vault as to omit the ridge in Complainant's Exhibit Vault?

A. Yes, sir; it would be the same in kind, but different in degree.

290 Re-D. Q. Are the constructive features of the ridge stones in Complainant's Exhibit Vault and complainant's model Billaud vault of equal importance?

A. Yes, sir.

291 Re-D. Q. Do they assist to clamp together the roof stones?

A. Yes, sir.

292 Re-D. Q. What is the mechanical device used in Complainant's Exhibit Model Billaud Vault?

A. A mortise running almost the entire length of the bridge stone.

293 Re-D. Q. Is there anything in Complainant's Exhibit
298 Vault similar in principle to this ridge-stone mortise in the Complainant's Exhibit Model Billaud Vault?

A. Yes, sir; the upper narrow surface of the roof stone is cut so as to form a tenon which includes the whole width of the stone, the length being only slightly less than the length of the same. This fits into a mortise on the side of the ridge stone formed by the overlapping rebate and two shoulders left on extreme end of the stone.

294 Re-D. Q. Is any combination of dowels and overlapping stones a novelty?

A. Decidedly no. Dowels and shoulders, lugs and tenons, were used as far back as the pyramids and are common in Roman work. Tenons can be shown in work which dates from 480 B. C., in the temple of Jupiter Olympus, at Agrigentum. The overlapping of stones to protect joints is a building instinct. Even the prototype of the complainant's roof stones can be seen in the so-called Druidical monuments, the cairns and tumuli in the well-known locations of the mound-building peoples of the west of Europe, from Scotland to Spain.

395 Re-D. Q. In what respect do the plates 7 and 8 in Defend-

ants' Exhibit Monuments Funeraires bear on the complainant's patent No. 244,224?

A. They show continuous roof stones held in place by the device of a mortise and tenon.

Adjourned *to sine die.*

DEC. 13, 1883.

Recross-examination of Mr. TUTHILL by Mr. FLETCHER:

296 Re-X Q. What do you mean by the words "masks the size," used in your answer to cross-question No. 146 and to redirect question No. 263?

A. The words recouvre l'edicule in the Defendants' Exhibit Revue Generale and which have been translated in the answers to the questions above referred to by "masks the size" signify, ac-

299 cording to the strict interpretation of the words themselves, the covering up of a small structure. An edicule is a small structure, generally a model of some larger building, specially of the temples—instances of it in old works to be found in the capitals of columns, where a model, as it were, of the structure in which it is used has been placed as an ornament of the cap. The word in this case is used with the special bearing upon the size of the structure, it being, as previously testified, of very small dimensions. The word recouvre, according to Spier & Surenne, means to conceal, to mask, to cover up; with these significations the evident meaning of the phrase is to conceal or mask the smallness of the structure. The masking of the size as accomplished by the vault stones in the Billaud vault as described by this clause, recouvre l'edicule, has reference to the absolute reduction of the height of the vault and an apparent reduction by the treatment made possible to the under surface of the vault stones. This reduction of the height of the vault gives a more harmonious proportion between the general dimensions of the structure and renders the necessary height of the same (the structure) less apparent.

297 Re-X Q. Then I understand the meaning of the words "recouvre l'edicule" to mean covering over the little structure; in a word, referring to the interior of the vault. Is that so?

A. I would like to know what the counsel means by covering over the structure?

298 Re-X Q. I understand from your definition that in a word the literal significance of the phrase is covering over or covering back the little structure. I wish to know whether you refer to the interior, the exterior, or the entire underlying portion when you refer to the little structure or edicule?

A. I refer to the interior of the structure primarily.

300 299 Re-X Q. To what do you refer by your words "the treatment of the vault stones," in your answer to the question next to the last?

A. By the ornamentation either in relief or color.

300 Re-X Q. Then, in your opinion, the Billaud vault had in view the ornamentation of the interior upon the ceiling?

A. It most certainly had; almost the entire interior surface of the vault has a decoration in color.

301 Re-X Q. What does the word "dure," in the tenth line of the 356th page of the context of volume XIII of Revue Generale, mean?

A. According to Spier & Surenne, it means "thick," "hard."

302 Re-X Q. Which is the primary meaning?

A. Thick is that which is given as the most usual meaning of the word.

303 Re-X Q. Then in your translation of the context of the Revue Generale you understand that word to refer to size rather than quality of the stones to which it is applied?

A. The impression conveyed by the context would lead one to judge that way; as far as the transaction goes, it would not seem to signify whether you took it thick or whether you took it hard.

304 Re-X Q. Then in the translation the context, in your opinion, governs very largely the meaning of the word "dure." Is that so?

A. The impression conveyed by the context.

305 Re-X Q. In practice and in positions concealed from the weather is ornamentation applied to hard or to soft stones?

A. It depends upon the stones of the structure.

306 Re-X Q. In such circumstances as the Billaud vault, for instance, would you apprehend that the ornamentation would be applied to hard or to soft stones internally?

A. It does not seem to me that it would make any difference.

301 307 Re-X Q. It is a regular rule, is it, that ornamentation is done for the interior of buildings upon hard stones?

A. It depends upon the building.

308 Re-X Q. Then there is no regular rule about it?

A. No regular rule about it at all; if the interior of your walls are of hard stone and you wish to decorate them you can decorate them, and if they happen to be of soft stone or plaster and you wish to decorate them you can decorate them.

309 Re-X Q. Suppose stones are placed upon the interior of buildings for the especial purpose of being decorated, are hard stones ordinarily used for that purpose?

A. Matter of choice—matter of exigency at the time; no rule can govern the selection.

310 Re-X Q. Do the end of the vault stones in the Billaud vault perform no other function beside those performed by the gable stone in the H. Q. French device, as patented?

A. Incidentally they form part of the vault-stone system.

311 Re-X Q. Does the capstone of the H. Q. French vault, as patented, perform any function of construction which the ridge stone in the Billaud vault does not perform?

A. No, sir.

312 Re-X Q. You say in your answer to redirect question number 280 that the internal vault stone designated as number 4 in the model of the Billaud vault is not necessary to the construction, but incidental. What incident calls this internal vault stone into use?

A. The masking of the size, as before described.

313 Re-X Q. The holding of the roof stones in position firmly, in your opinion, is entirely left out of consideration, is it?

A. I so deem it.

314 Re-X Q. Would you have so deemed it if it had not
302 been important to make the Billaud vault a substantial equivalent to the H. Q. French vault, as patented?

A. Had I been called upon to reproduce a vault similar in construction or following the construction of the Billaud vault I should have left out the lugs, shoulder, or tenon on the internal vault stone number 4 entirely.

315 Re-X Q. In your computation of the comparative cubic contents of the roof stones, with the lugs, shoulders, or tenons, how do you acquire any dimensions of the roof stones in the H. Q. French vault, or of the lugs, shoulders, or tenons therein?

A. By simple reasoning.

316 Re-X Q. Please give your process of reason.

A. I take the width of the door as the modulus. I know that the door of such structure is of a general width. I apply the scale to the width of the door. I find that the scale which will most accord with the dimensions of such structures as usually built would be the three-quarter scale. Applying this scale to all the dimensions of the building, the dimensions given thereby fully justify the use of the scale. On that scale the computations have been made. Should the scale that is used in the construction of the model be other than the three-quarter inch scale, it can differ from it but very slightly, so that the general results of the computation have still force.

317 Re-X Q. Do you understand that the device as patented is confined to any form or dimensions except those demanded by the exigencies of any particular case?

A. The only exigency which might cause a difference or cause a variation from the device as patented would be the limit given to the size of stones that could be obtained for the roof. It would simply affect the continuity of the roof stones.

318 Re-X Q. Suppose the element of width of the roof stone
303 is left out of consideration, what limit would you place as the practical extreme of lengths?

A. It would depend more on the stone used.

319 Re-X Q. Of granite, for instance?

A. That would depend upon the quarriable size of the stone.

320 Re-X Q. To what do you refer?

A. To the quarriable size; I mean the size of the stone that it would be possible to obtain from the quarry suitable to the purpose indicated.

321 Re-X Q. Size in what direction?

A. In any direction; it would make no difference.

322 Re-X Q. You are somewhat acquainted, are you not, with the dimensions of stone frequently produced in quarrying?

A. Yes, sir.

323 Re-X Q. Suppose a stone of three feet in width is desired from any of the large quarries of this country, how long would you think it would be practicable to obtain such a stone?

A. It would be practicable to obtain such a stone, say, twenty feet long; it might be obtained longer, but the general difficulty and expense of obtaining such a stone three feet wide and of proportionate thickness would, as a rule, preclude its use.

324 Re-X Q. You think that twenty feet long and three feet wide and one foot thick would be as large a stone as could be practically obtained?

A. I don't think so; a larger stone might be obtained, but the practical difficulty of quarrying a stone of that nature and the cost incident to it would, as I have said before, almost wholly preclude its use except on a very special occasion.

325 Re-X Q. Do you apprehend that there is any limit of the device as patented by H. Q. French in the patent sued on?

A. I do not. I apprehend that continuous roof stones could be applied in as many layers up the sloping sides of the roof as the structure might require and be within the patented device.

304 326 Re-X Q. Then the only limit to the possible construction of such a device would be in the length of the continuous roof stones, in your opinion?

A. Together with the considerations before mentioned; the length would give the limit.

327 Re-X Q. You obtain the comparative cubic contents of the roof stones and the lugs, shoulders, or tenons in the Billaud vault in the same manner as in the H. Q. French vault, don't you?

A. No, sir; I take it from the scales given on the drawings.

328 Re-X Q. How many lugs, shoulders, or tenons are there in the H. Q. French vault?

A. Two to each roof stone.

329 Re-X Q. How many in the Billaud vault?

A. One to each roof stone, each being made up of three tenons.

330 Re-X Q. In your answer to redirect question 294 you refer to dowels, shoulders, lugs, and tenons being used in the pyramids. What is your authority for that statement?

A. I do not make that statement. The statement is that dowels, shoulders, lugs, and tenons were used as far back as the pyramids and are common in Roman work. Dowels were used in the pyramids—wooden dowels. They are common in the work at Persepolis. All the paving stones on the great platforms of the staircases leading up to the palaces of the kings are doweled, made by regular dovetailed bronze clamps.

331 Re-X Q. What is your authority for this statement?

A. Correct and authorized engravings and photographs on the subject.

332 Re-X Q. What engravings and what photographs?

A. The most notable engraving giving this is one that is very familiar to all people. It is called Persepolis.

305 333 Re-X Q. What is the precise structure as shown in this engraving to which you refer? Is it a dowel or a shoulder or a lug or a tenon?

A. It is a dowel dovetail.

334 Re-X Q. Please make a sketch of it.

A. Here it is. (Witness makes sketch as requested by counsel.)

The sketch just made by witness is marked "Complainant's Exhibit 'Rough Sketch' of December 13, 1883."

335 Re-X Q. Now, what would you term that?

A. The dowel dovetail.

336 Re-X Q. Of Persepolis pavement?

A. Yes, sir; of Persepolis pavement.

337 Re-X Q. The sketch produced is taken from the engraving, is it, as existing in the pavement at Persepolis?

A. It is, sir.

338 Re-X Q. Am I to understand from the pen sketch that the cross-line running through between the stones connects across the dowel (indicating)?

A. It does not, and I amend the drawing so as to more clearly show the device.

339 Re-X Q. What is the purpose of that dowel?

A. To hold two stones together.

340 Re-X Q. Was there any overlapping in the stones?

A. No, sir.

341 Re-X Q. What other authority have you for saying that structures of this sort existed as far back as the pyramids?

A. It would take a history of architecture exhaustive and complete.

342 Re-X Q. To what history of architecture do you refer us, and under what head or during what period, in order to find the devices to which you refer?

A. It is touched upon in nearly every history dealing of architecture of the early periods.

343 Re-X Q. Please name one to which you can refer us
306 for positive instructions, and precisely what you intend by your answer to redirect question 294.

A. Furgusson's History of Architecture, Sir Gardner Wilkinson's Egypt, and the larger encyclopedias, Stuart's and Revett's Athens, &c.

344 Re-X Q. What larger encyclopedias?

A. Britannica.

345 Re-X Q. What part of Furgusson's History of Architecture describes the construction to which you refer?

A. The parts that treat of the architecture of Persepolis. Consulting with the index would show more clearly where to look for things. Of course I do not know all the books by heart or by page.

346 Re-X Q. You seem to imagine that the complainant proposed to take at your say-so matters of history. We wish to find precisely whether you are the historian or who describes the device. Please give such data as have precisely what you refer to in your answer to redirect queston 294—can be ascertained without any general expressions or statements of entire works to which you refer.

A. I respectfully refer you to a library on architectural subjects.

347 Re-X Q. Have you nothing which can give the page of any particular work to which you refer in your answer to the question cited?

A. I have not at present.

348 Re-X Q. Will you obtain such and produce it at the next hearing?

A. I have not the time to go through entire libraries on architecture. There are sufficient numbers of works indicated in the answers already given to allow a corroboration of those statements which I have made on this subject.

349 Re-X Q. Then you have already made such an examination in connection with this case, have you?

A. With respect to some works. Others are a matter of previous study and general architectural preparation.

307 350 Re-X Q. With respect to which of these works have you made an especial examination?

A. I made an especial examination of Steuart and Revett's Athens.

351 Re-X Q. Then why do you not cite the work in a method which will signify to what you refer?

A. I have cited the work; I don't remember the numbers of the plates or the numbers of the illustrations on the plates; it has already been specified as much as any man would like to have it; it is the temple of Jupiter Olympus at Agrigentum. If I remember correctly, the special figure is 1 on the same plate—on plate VII or VIII; I don't know.

352 Re-X Q. Then, after all this circumlocution, we find that the temple of Jupiter Olympus at Agrigentum is found in this work. Will you please state where each of the other items referred to in your answer are found as particularly as that?

Objected to by defendants' counsel upon the ground that the question, especially in respect of the word circumlocution, is improper and impertinent.

A. The Roman work is in this same temple of Jupiter Olympus at Agrigentum; the reference made to the druidical monument is found—is to be found—in Furgusson's Rude Stone Monuments and some details in Lubbock's Prehistoric Man.

—. Do you mean to have us understand that the temple of Jupiter Olympus at Agrigentum dates as far back as the pyramids?

A. I do not make any such claim; the date of the temple of Jupiter Olympus at Agrigentum is given 480 B. C.

353 Re-X Q. Then what work is there not in the pyramids, but as far back as the pyramids, to which you refer by your answer to redirect question 294?

A. An innumerable quantity of Egyptian monuments and Assyrian monuments. If my memory serves me correctly,

308 I think evidences of the existence of those devices will be found in Layard's Nineveh.

354 Re-X Q. In what parts of the monuments to which you refer are these structures found?

A. It would be at the present moment hard to specify the exact location; the practice of clamping stones together has been followed

and can be shown to have been followed in buildings as far back as has been indicated.

355 Re-X Q. Are you able to state any particular work or monument or structure which dates as far back as the pyramids, in which dowels, lugs, and tenons are employed?

A. Persepolis possibly dates as far back as I can remember at the present moment.

356 Re-X Q. You state that those articles were common in Roman work. Can you cite any other except the temple of Jupiter Olympus at Agrigentum?

A. Not with any more definiteness at present.

357 Re-X Q. Can you state where the druidical monuments to which you refer in your answer to redirect question 294 are situated?

A. Such statements could be made on consultation of the book already cited, Furgusson's Rude Stone Monuments.

358 Re-X Q. Do you know where they are situated?

A. Generally; yes.

359 Re-X Q. Where?

A. Commencing in England at Stonehenge and slightly north of that, running down across the channel; northwest France and some in the southern portions of France; cognate structures in Switzerland, among the late dwellers, and in northern and western Spain.

360 Re-X Q. At Stonehenge was overlapping of stones to protect the joints employed?

A. No; no statement is made in reference to Stonehenge by me as citing instances of the patented device in any respect.

309 361 Re-X Q. Can you give any instance in which you are able to state the precise locality of any structure existing among the druidical monuments, the cairns, and tumuli in which the overlapping of stones to protect joints is employed?

A. There has not been stated that instances of overlapping stones to protect joints is an instance in these druidical monuments or cairns or tumuli. They are cited as giving instances of continuous roof of stones.

362 Re-X Q. You say in your answer to redirect question 294 that "the prototype of the complainant's roof stones can be seen in the so-called druidical monuments, the cairns, and tumuli in the well-known locations of the mound-building people." To what do you refer by the prototype of the complainant's roof stone?

A. The continuous roof stone covering a sepulchral chamber.

363 Re-X Q. Do you mean in that connection to refer to the combination of three continuous roof stones lapped upon each other in any form?

A. I do not.

364 Re-X Q. Then the word "prototype" as significant of the entire roof stones of complainant's vault is an error in that answer, is it?

A. It seems not. The prototype as mentioned is referred to as indicating the continuous roof stones.

365 Re-X Q. Then the word "prototype" is, in your opinion, applicable to only one thing, and that is continuity. Is that so?

A. It does so seem?

366 Re-X Q. What do you mean by "prototype" if it means anything else but this one attribute of roof stones?

A. I cannot see but what a fair answer to the question has been given in the preceding answer, that the prototype of the roof stone is in the continuity of the stones used in these monuments.

310 367 Re-X Q. And you meant nothing more by your answer to redirect question 294, as I understand you?

A. I meant nothing more than to express the continuity of those stones in my use of the word prototype.

368 Re-X Q. Is there any instance in ancient times of a combination of overlapping stones and lugs, shoulders or tenons, in the same structure, to your knowledge?

A. Not to my knowledge at present.

Adjourned *sine die*.

Addendum No 1, X. A. No. 153:

That is the point which is left uncertain by the drawings and which is assumed by the model set forth, Compl't's Ex. Model Billaud Tomb.

I would like to further state that, in the light of the question asked by the counsel and on the necessary assumption that is to be made on the examination of the drawings (it—*i. e.*, the extent of the lugs, shoulders, or tenons—is assumed in the model), were these projections on the vault stones left out from the inner line of the wall which supports them, leaving them (*i. e.*, the "plain slabs" of the question) as absolutely and strictly gable stones, and construction of the vault as indicated by the drawings and as further described by the text warrants and upholds the presumption that lugs, shoulders, or tenons would be still left on the gable stones themselves for the support of the roof stones.

Addendum No. 2, X. A. No. 157:

The phrases "and it is a roof stone" and "or roof stone," in lines 9 and 12, respectively, should be omitted on the ground of having no bearing in the answer.

Addendum No. 3, R. D. Q. No. 274:

The phrase "the whole of" should be inserted in line 7,
311 between the words "same" and "the," on the ground that such was the intention of the question, which intention was fully apprehended at the time, as is shown by the consequent answers No. 274, No. 275, and No. 276.

Addendum No. 4, R. D. A. No. 284:

The word similar should be substituted for the word same in line 21, on the ground that the latter refers to the roof stones of the Billaud vault, but is used with reference to the roof stones of the complainant's vault.

The substitution is not a matter of sense, but of English.

WM. B. TUTHILL.

Subscribed and sworn to before me this 2d day of January, 1884.

EDWARD J. KNAUER,
Special Examiner.

Before Edward J. Knauer, Esq., special examiner.

312 NEW YORK, *February* —, 1884.

Present: —.

HENRY L. BREVOORT, a witness produced on the part of the defendant, being first duly sworn, in answer to interrogatories propounded by Mr. RANSOM, says:

1 Q. What is your name, age, residence, and profession?

A. Henry L. Brevoort; I am 35 years of age; I reside in the city of Brooklyn, State of New York, and I am by profession a mechanical engineer.

2 Q. What opportunities have you had to familiarize yourself with the mechanical principles and in the examination of patents and patented inventions, and what experience have you had in the study of drawings and of the specifications of inventions and as an expert in patent causes?

A. I went into a machine shop at the age of 17 and worked there both at the bench and in the drawing office, and after that I owned and ran for some years a shop in the city of New York. I eventually gave up this work and devoted myself to the business of testing and experimenting upon machinery. For seven or eight years last past I have been almost exclusively occupied in examining patents and patented inventions, and I have during this period been very frequently called upon each year to testify in suits relating to patents in the circuit courts of the United States, both for this and for other circuits. I have been so called in upwards of three hundred cases.

3 Q. Have you read and do you understand the United States letters patent granted to Hamline Q. French, dated July 12, 1881, and numbered 244,224, for "roof for vaults?"

A. I have read the patent referred to in the question, and I believe I understand what is therein described and claimed.

313 4 Q. Have you seen and examined the drawings in the publication entitled "Revue Generale de l'Architecture et Travaux Publies," vol. 13, for 1855, page 355, and have you read and examined a translation and tracings marked Plaintiff's Exhibit for Identification, Nov. 5, 1883?

A. I have examined the publication and the exhibit referred to in the question.

5 Q. Please state whether or not, in your opinion, the inventions referred to in the first and second claims of the H. Q. French patent No. 244,224, dated July 12, 1881, are shown in the French publication referred to in the previous question, and give any reasons you may have for your opinion.

A. I have carefully made the comparison required by the question, and I am clearly of the opinion that the French architectural work referred to therein does show the inventions of the patent No. 244,224. My reasons for this opinion are as follows, and in giving them I will first state that what I understand to be referred to in the complainant's patent as the inventions therein claimed in the two claims of the said patent:

The invention relates to a roof for a vault or building in which the dead are to be deposited, and which is to be strong and enduring, so that through the forces of nature its structure will not be destroyed. To this end it is desirable that the structure be so constructed that its parts will hold together, whether cement be used or not, the stones of the roof interlocking and thus forming an edifice which tends by its own weight to keep its shape and dimensions.

The walls are not specifically described in complainant's patent, except where it is stated that they "are laid up in the usual manner."

The roof is the part of the construction in which the invention resides, and this roof is made as follows: There are to be two gable stones, one at either end of the building, which stones have tenons upon them. There are to be two continuous roof stones which
314 have recesses to interlock with these tenons. There is to be a capstone closing the space between the roof stones and which, like them, is to be made continuous and which laps upon the roof stones. For the tenons "dowel pins or other equivalent devices can be used." Though the specification says that the capstone is to rest upon the gable stones at its ends this feature of the structure is not referred to in the claims of the patent, and consequently I suppose that it forms no part of the invention and is merely referred to as one form which illustrates a structure embodying the complainant's inventions.

The inventions referred to in the claims are as follows, as I understand them:

The first claim is for a combination of parts, which are—

First. Two or more continuous roof stones.

Second. Two gable stones.

Third. A capstone which laps upon the roof stones.

Fourth. Means for locking the roof stones to the gable stones.

The second claim is also for a combination of parts, which are—

First. Two or more continuous roof stones.

Second. Two gable stones.

Third. Means for locking the roof stones to the gable stones.

It will be noticed that no vertical joints exist through which water can find its way to the interior of the structure.

The patent is defective as a clear description of a structure, in that no clear view is given of the gable stones except so far as their front view is concerned. This in figure 1 is clear enough. In figure
2, however, the gable stone is not designated by a letter and
315 it and the stones which are described as follows: "The space at the sides between the stones A is filled out by stones C set upon the side walls," are both shown as one and the same; conse-

quently it cannot be clearly determined whether the gable stones terminate at x in figure 1 of "Brevoort diagram," which I have prepared and to which I will refer during my testimony, or whether they are prolonged to y.

If a line had been drawn at x, then the matter would have been clear. As it is, however, the drawings do not agree with the description, for the drawings show that what I take to be a gable stone and the part marked c are one and the same piece, while the description points the other way. However, the patent says that the gable stones are "of any required shape and size;" so perhaps the conflict raised by the drawings and description is not of much moment.

It should also be noticed that neither from the drawings or from the description can the exact shape of the gable stones be determined.

Turning now to the old French publication, I find described therein a burial vault built for holding the dead, and built evidently with the object in view of making a strong and permanent structure which by its configuration would resist moisture, presenting no vertical joints for the rain to get through, and which is so made as to stand in its position without the use necessarily of cement or the like material.

I cannot compare the two structures as to size, for, though the old French publication shows a drawing having a scale marked thereon, complainant's patent does not give any scale, and the vault there shown might be six feet long or sixty feet long, the invention not being limited to a vault of any particular size. The vault shown in the old French book has side and end walls, as has complainant's.

It has two continuous roof stones and a continuous capstone
316 and it has two gable stones surmounting the end walls and apparently of the same shape and configuration as those of complainant.

There are certain differences, however, between the two structures which should be considered to see if they are material or not in this issue.

The capstone of complainant's vault rests, according to the description, upon the gables tones, while in the old French publication the capstone does not so rest, but only laps upon the two roof stones, so as to effectually close the vertical joint between such stones. Now, this difference is not material, for the claims of the patent do not refer to it, and whether the lateral space protected by the capstone is one foot or one thirty-second of an inch, the function and purpose is the same, viz., the protection of a vertical opening.

The old French publication shows a stone under the roof stones and between the gable stones. This stone is not found in the complainant's structure, and this structure is the weaker and less efficiently protected for the want of this stone. This difference, however, is not material, as the claims of the complainant's patent (as well as the description) are silent as to whether such a stone could exist or not.

The old French publication does not show where upon the gable

stones one tenon should end, or, rather, how near the front or exposed surfaces of the stones they should come.

Figure 2 of Brevoort diagram will illustrate my meaning.

This sketch shows a side view of one of the gable stones of a vault illustrated in the old French publication.

(*a*.) Shows the rabbet for the middle stone to rest upon.

The full line *b* shows the tenon, where it might end near one end of the stone.

The dotted line *c* shows where the tenon might end near the other end of the stone.

317 Where the tenon does end is totally immaterial and is not described, and so long as the tenon is upon the gable stone, and that it is there is clear from the description of the old French publication, where it says, "And these stones jointed together by rebates are bound, and as it were, tied (hooped) together by the two thick slabs of stone which cover their sloping sides, by means of the hollow made on the lower sides of the former (the slabs), in order to clamp the projections retained on the stones of the vault."

The drawing marked "cross-section" shows that these tenons are like complainant's, only larger and more secure. This difference need not be considered, as the complainant's patent expressly says, in reference to this subject, "I do not limit myself in that respect."

Part of the gable stones of the old French publication are hollowed out on the inside, as shown in the drawing marked "longitudinal section" and are formed as shown at figure 3 of the Brevoort diagram, where A shows the hollowing out upon the inside.

Complainant's patent shows gable stones somewhat as per figure 4 of the Brevoort diagram, where A shows the hollowing out upon the outside.

From this it will be seen that the gable stones, or at least one of them, is hollowed out in the patent and in the old French book, and therefore this difference is not material.

Of course, it makes no difference just where the tenons upon the gable stones end in the old French publication, as the complainant makes no point as to this location and does not even limit himself in terms to tenons. It is sufficient that some interlocking devices between the continuous roof stones and the gable stones exist to meet the description and drawings of complainant's patent, which in itself is not clear as to the shape of the gable stones.

318 Thus the old French publication shows:

First. Two continuous roof stones.

Second. Two gable stones.

Third. A capstone.

Fourth. Means for locking the roof stones to the gable stones.

And this is the invention of the first claim, while the same publication shows and describes the combination of the second claim, which consists of three of the elements of the first claim, the capstone being omitted.

Thus the old French publication shows the inventions of complainant, and the differences which exist are not material ones or

substantial differences, even when judged by the specification and drawings of complainant's own patent.

Defendants' counsel offers in evidence the diagram referred to by the witness Brovoort, and the same is marked "Defendants' Exhibit Brevoort Diagram."

6 Q. Have you examined the drawing marked "Defendants' Exhibit Original Drawing of Two Sections of the Beekman Vault," delivered to complainant and from which he constructed said vault, and do you understand the description of said vault given in the testimony of E. D. Howland taken herein for the defendant?

A. I have examined and understand the drawing, and I understand that which is referred to in the testimony.

7 Q. Please compare the structure referred to in the drawing mentioned in the last question, as you understand it, with the inventions of H. Q. French as clained in his patent No. 244224 and state whether or not the said drawing shows that which is claimed in the said French patent.

A. I have made comparison called for in the question, and
319 I think that the Howland drawing does contain the inventions of the H. Q. French patent. The only difference that I can see is that the tenon is upon the side walls, as well as being upon the gable stones, but this difference I do not regard as material. The drawing itself is not perfectly clear, but taken in connection with the testimony of Howland it is perfectly comprehensible.

DEFENDANTS' EXHIBIT.

(*Contract Between French & Co. and Gerard Beekman, Dated 13th July*, 1878.)

Specification of the work and materials required for the building and completion of a burial vault at Greenwood cemetery, Brooklyn, in accordance with accompanying drawings, for Gerard and J. William Beekman, of the city of New York.

General.—All the work of every kind in connection with the building of this vault must be arranged for and carried on in conformity with the rules and regulations of the Greenwood cemetery, and to the entire satisfaction of the engineer of the cemetery. Everything essential to the completion of the work is to be done or furnished by the contracting builder, even though not specially mentioned herein. The figures on the drawings are in every case to be followed in preference to measurements by scale.

Excavations, &c.—Do all the excavation of the area and depth required by the plans, and remove from the plot to such place as may be directed by the engineer of the cemetery all boulders and surplus earth not required for back filling and regrading; the bottom of excavation to be left in proper condition to receive the concrete. As the work progressess the trenches may be back-filled

as may be necessary. Upon completion the slopes must be
320 regraded, properly sodded, all rubbish removed, and the plot left in a neat condition.

Foundation.—The foundation to be a solid body 16 feet wide, 21 feet long, and 4 feet in thickness, formed of concrete, composed of White's Portland cement, chips of hard stone (neither mica nor sandstone) of 2 inches, a less diameter, and clean sharp sand, made in the following manner: 1 part of cement, 10 parts of chips, and 2 parts of sand, to be thoroughly mingled dry — and be used immediately after wetting, and well rammed as the work progresses; all to be brought up level ready for the walls and the vestibule pavement; cesspool in the centre of vestibule to be formed as the work proceeds; all curbing that may be necessary to be done by the contractor; the concrete to be allowed to "set" before erecting the superstructure.

Brick-work.—The shell for the catacombs will start on the concrete foundation and be built, as shown, of the best Haverstraw brick, laid close in cement mortar, composed of 1 part White's Portland cement to two parts clean sharp sand; every course to be thoroughly grouted, every third course to be a heading course, and all inside joints to be struck smooth and flush; stone and brick-work to be bonded together as shown; all the outside of the brick work to be thoroughly plastered with Portland cement, and then coated with the very best quality of liquid asphalt in the best manner.

Granite.—The cut-stone work shown on drawings to be of Quincy granite, entirely free from iron rust; the stones to be of large sizes as shown, running solid through the wall; those that are under ground when finished may be rough as split from the quarry; all bedding sides are to be true and all edges straight; the joints to be laid with strips of sheet lead at the inner and outer faces of the
walls, and the intermediate spaces to be filled with cement;
321 these lead strips to be 4 inches wide, of lead weighing six pounds to the square foot, and when the walls are finished the edges of the strips to be caulked into the joints in the best manner.

The base course, sill and step, door recess and jambs, facia, cornice roof slabs exposed to view, and the whole interior of the walls and ceiling or under side of roof to be hammer-dressed, ten-steel work; the base and sill-washers, jam-champers, and cornice moulding to be fine axed work; the two heavy courses between base and facia to be rock-work face, with tooled margins; the door to be fine axed work, with ventilating apertures as shown, and be fitted, hung, and secured in the very best manner; the name to be cut in bold relief and finely polished on the face. The three stones forming the roof are to run in one piece each from the extreme front to the extreme rear, and the brick arch is to be omitted.

Catacombs.—The catacombs to be formed in the usual manner of Penryhn slate shelves, and outer supports to be two" thick; the middle support to be of brick 4 inches thick; other supports three inches thick; the tablets to be of best Italian veined marble 1½ inches thick, fine rubbed; the edges of supports and shelves—*i. e.*, sills

and jambs—to be of strong dove marble, polished; all to be fitted and finished complete.

Floor.—The vestibule will be laid with 1 "black slate tiling," cut in squares of 10 inches each and set diagonally; all to be done in the best manner,

In case any matters of difference between the owners and builder of this vault shall arise, such differences shall be referred to Mr. J. A. Perry, of the Greenwood cemetery, as arbitrator between the parties, and his decision as to such matters shall be final.

This agreement, made this thirteenth day of July, 1878, between French & Co., of the city of New York, of the first part, and
322 Gerard Beekman and J. William Beekman, of the same place, of the second part, witnesseth:

That the said party of the first part, for the consideration hereinafter mentioned, has agreed, and hereby does agree, to furnish all the materials of every kind and do all the work that may be necessary for the building and completion of a burial vault upon the plot of the parties of the second part in the Greenwood cemetery, in the city of Brooklyn, in accordance with the accompanying specification and the plans or drawings therein referred to, all of which are part and parcel of this contract, and to complete and deliver the same finished in all respects to the entire satisfaction of the parties of the second part on or before the first day of November, 1878, for the sum of five thousand two hundred and fifty dollars.

And the said parties of the second part, for and in consideration of the foregoing premises, have agreed, and hereby do agree, to pay to said party of the first part for the aforesaid work, when completed as above set forth, the said sum of five thousand two hundred and fifty dollars.

And it is understood and agreed that the stipulations aforesaid are to bind the successors, heirs, executors, administrators, and assigns of the parties respectively.

In witness whereof the parties hereto have set their hands and seals the day and year first above written.

FRENCH & CO. [L. S.]
GERARD BEEKMAN. [L. S.]

In presence of—the word "successors" inserted between the words "the" and "heirs" and in the 22d line of the foregoing contract before execution—

E. D. HOWLAND. [L. S.]

323 NEW YORK, *Nov. 7th*, 1878.

Received of Gerard Beekman two hundred and fifty —.

FRENCH & CO.

Received, New York, Dec. 26, 1878, of Messrs. Gerard Beekman fifteen hundred dollars on acc't of within contract.

$1,500. FRENCH & CO.

Received, New York, August 13, 1879, on acc't *on* within contract, of G. & J. Wm. Beekman, one thousand dollars.

$1,000. FRENCH & CO.

Received, New York, August 18th, 1879, on acc't within contract, one thousand dollars.

FRENCH & CO.

August 21, 1879, received on account, as above, fifteen hundred dollars.

$1,500. H. Q. FRENCH & CO.

September 4th, 1879, received on acc't, as above, two hundred and fifty dollars.

$250. FRENCH & CO.

September 12th, 1879, received on acc't, as above, five hundred dollars.

$500. FRENCH & CO.

Sept. 17, 1879, received of J. W. Beekman one thousand and twenty-nine dollars, in full of within contract and all extras.

FRENCH & CO.

324 DEFENDANTS' EXHIBIT.

(*Extract from the Description of the Tombeau de la Famille Alc. Billaud, in Cemétiere du Nord, Paris.*)

"Revue Generale de l' Architecture et des Travaux Publics. Vol. 13, 1855.

Transcript of Original Text.

Page 355, 1st col., 2d p.:

Le monument que représentent les Pl. XXXIX, XL, XLI, XLII, XLIII, XLIV, et XLV, élevé en 1847, pour la sépulture de la famille Alc. Billaud, est précisément de cette forme. * * *

Same p.:

Au dessus de cette ordonnance régne un entablement, sur lequel s'appinient les deux versants du comble qui termine l'édifice."

Page 355, 2d col., 1st p.:

"L'entablement est forme de trois pierres évidées en une espéce de voute qui récourve l'édicule, et ces pierres, assemblées entre elles pas des fenillures sont reliées et comme encerclées ensemble par les deux dalles de pierre dure qui couvrent leus versants, au moyen de l'évidement que celles-ci portent à leur face de dessons, pour emboiter les bossages réservés sur les pierres de la voute ces dalles sont à leur tour reliées l'une à l'autre par l'arête faîtière qui convonne l'edifice."

325 (*Extract from the Description of the Tomb of the Family of Alc. Billaud, Cemeterie du Nord, Paris.*)

"Revue Generale de l'Architecture et des Travaux Publics." Vol. 13, 1855.

Translation.

Page 355, 1st col., 3d p.:

The monument illustrated by plates XXXIX, XL, XLI, XLII, XLIII, XLIV, and XLV, erected in 1847 as a place of burial for the family of Alc. Billaud, is exactly represented.

* * * * * * *

Same p.:

Above this ordonnance extends an entablature, on which is supported the two sloping sides of the roof which finish the edifice.

Page 356, 2d col., 1st p.:

The entablature is composed of three stones, hollowed out so as to form a species of vault which masks the size (edicule), and these stones, jointed together by rebates, are bound and, as it were, tied (hooped) together by the two thick stabs of stone which cover their sloping sides by means of the hollow made on the lower sides of the former (the slabs), in order to clamp the projections retained on the stones of the vault. These stones are, in their turn, tied together by the ridge which surmounts the building.

(Here follow diagrams and photographs, marked pp. 326 to 332, incl.)

333 At a stated term of the circuit court of the United States of America for the southern district of New York, in the second circuit, held at the United States court rooms in the city of New York, on the twentieth day of May, in the year of our Lord one thousand eight hundred and eighty-five.

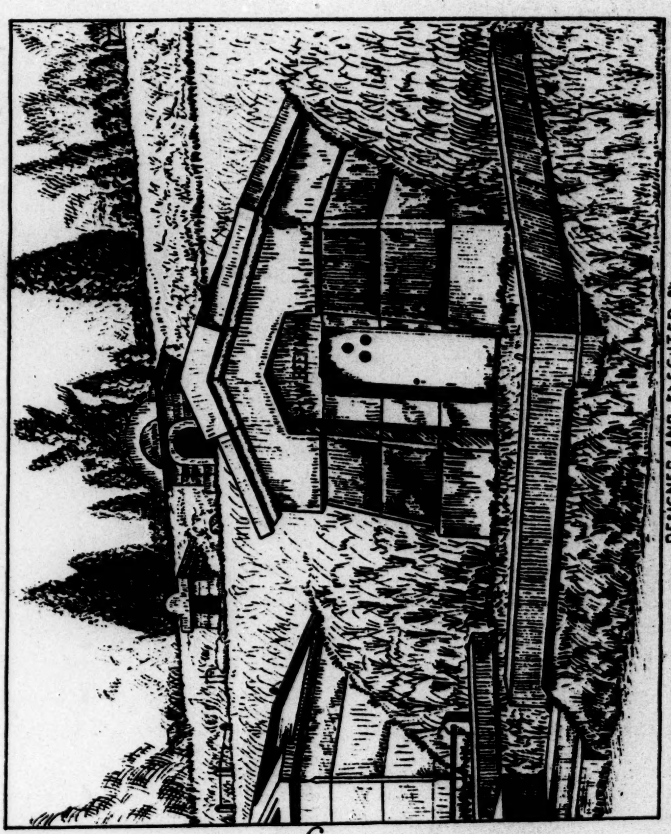
Present: The Honorable Nathaniel Shipman, judge.

HAMLINE Q. FRENCH
vs.
OLIVER S. CARTER *et al.*
} In Equity. Apr. Term. Cal. 85.

The above cause coming on this day for final hearing and upon pleadings and proofs, Mr. L. B. Bunnell is heard in behalf of complainant. Mr. George H. Fletcher is heard in behalf of complainant. Mr. Rastus A. Ransom is heard in behalf of defendants.

C. A. V.

No. 359
French
"
Carter slab
} p. 326



DESIGNED AND EXECUTED BY
H. O. French.
GRANITE MONUMENTS VAULTS ETC.
OFFICE No. 192 BROADWAY.
NEW YORK.

Defts Exhibit Photograph
Beekman Vault
Sept. 25/83

No. 359
French
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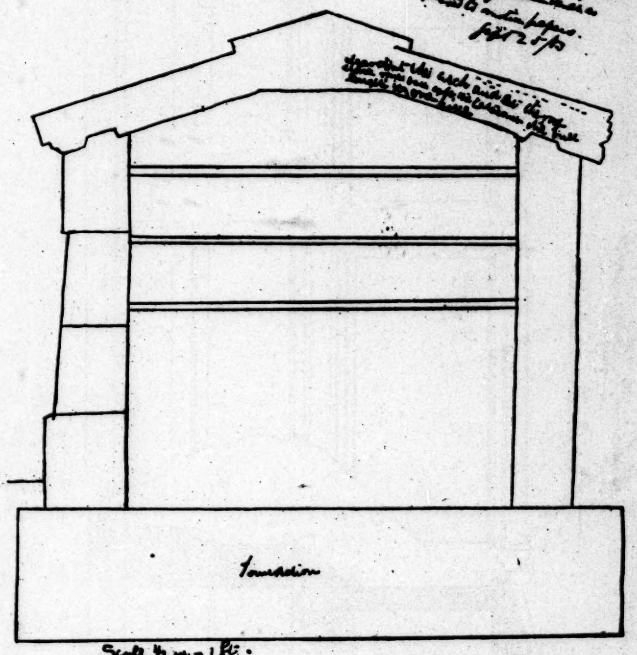
} p. 327

Exhibit A.



Scale 1/2 in = 1 ft.

No. 359.
French
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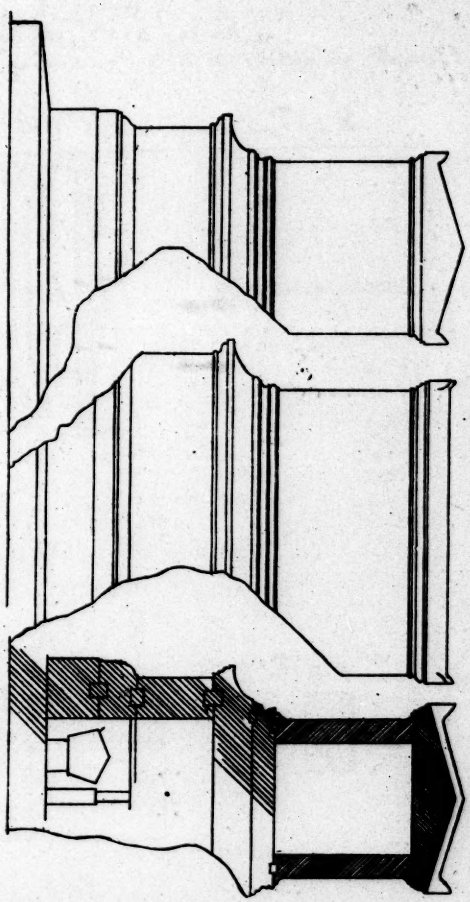
} p. 328.



Monuments & Funerals
Plates 7 & 8

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U. S. C. C. S. D. N. Y.
In Equity
French vs Carter et als
"Defendants Exhibit Brevort Diagram"

Fig. 1.

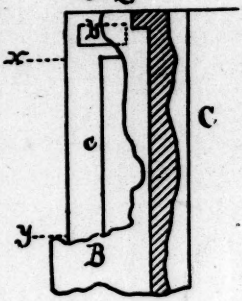

Fig. 2.

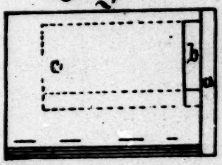

Fig. 3.

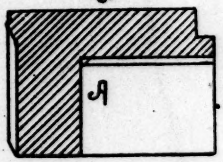

Fig. 4.

No. 359.
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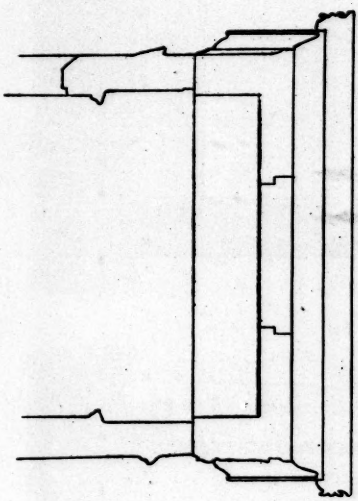
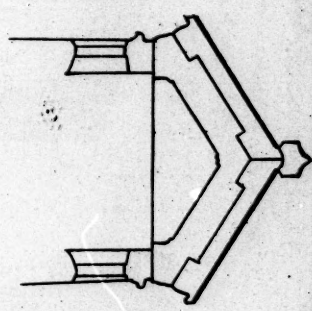


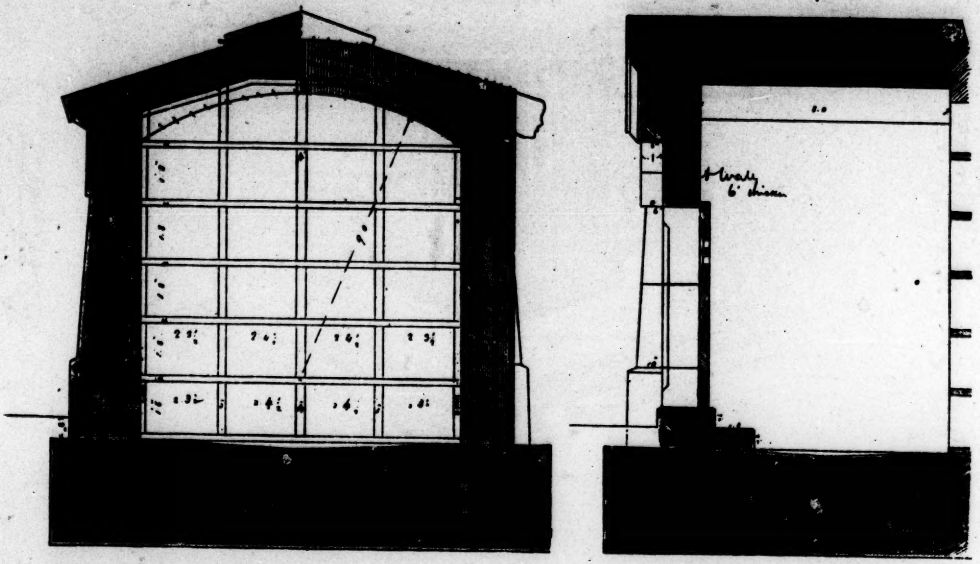
Longitudinal Section



Cross Section

Defts Ex. original drawing of
two sections of Beekman
Vault delivered to Complt.
from which he constructed
said vault.

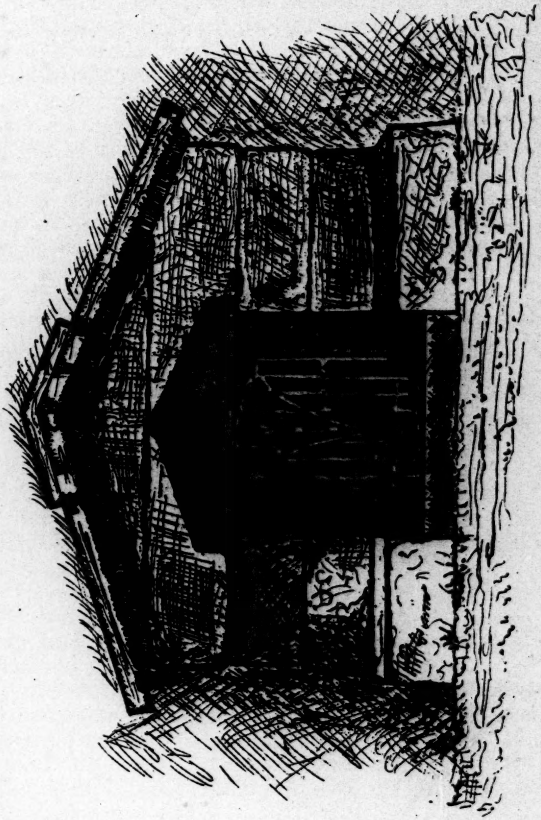
no. 359. French v. Carter et al } p. 331



Scale 1/2 in = 1 ft.

SECTIONS

No 359.
French
v
Cattwell } p. 332



Defts Exhibit - Sketch Front
view Beekman Vault.
Feb. 10. 1885.

334 Circuit Court of the United States, Southern District of New York.

HAMLINE Q. FRENCH
vs.
OLIVER S. CARTER, GEORGE MARK, and MILTON H. ST. JOHN. } In Equity.

SHIPMAN, *J.:*

This is a bill in equity, founded upon the infringement of letters patent No. 244,224, issued to Hamline Q. French July 12, 1881, for an improved roof for vaults for burial purposes. The patentee in his specification described this roof as follows:

"The object of my invention is to obtain a building without vertical joints, and held together and locked at the roof, so that by the locking and the weight of the roof the structure shall be made as enduring as the material of which it is built. My improved roof consists of the front and rear gable stones, the roof stones, which are continuous from one gable stone to the other at each side, and held to the gable stones by mortise and tenon or equivalent con-
335 nections and the capstone, which is formed with a rabbet to lap upon the roof stones and rests upon the gables, by which construction the stones forming the complete roof are securely locked, and without possibility of dislocation without being raised bodily upward."

The gables are each a single stone of a length sufficient to connect the roof stones and with tenons upon each of their upper surfaces.

The claims are—

"(1.) A roof for vaults and similar structures, consisting of the continuous roof stones B B, gable stones A connecting and locked to the roof stones, and the capstone C lapping upon the roof stones, substantially as shown and described.

"(2.) In roofs for vaults and similar structures, the combination of continuous roof stones B B and gable stones A A, connected and locked by mortise and tenons or equivalent devices, substantially as shown and described."

The difficulty in vault stone roofs which was to be remedied was the exposed or open seams between the stones, into which water can enter and become frozen, and thus by the action of frost
336 the stones are separated. Freedom from vertical joints and the locking of roof stones and capstone to the gable stones are the features of the improvement.

Without the aid of testimony in regard to the state of the art I should be strongly inclined to say upon the face of the patent that it did not contain a patentable invention. By the invention described in the second claim the difficulty is remedied by connecting in the ordinary way to gable stones, made of one piece, roof stones which are long enough to extend from one gable stone to the other, and protecting the seams by rebates if more than one roof stone upon one side of a roof is used, and then filling the space or ridge near the top of the roof in such manner as ingenuity or taste may dic-

tate. By the invention described in the first claim the space between the roof stones is filled by a single massive capstone, the edges of which lapped over the roof stones and which rested upon the gables. The device seems to be a simple one and easily conceived if the vault owner possesses the pecuniary ability to provide granite
337 of the requisite length; but the description of the tomb of the family of Billaud which is contained in volume 13 of the French work entitled "Revue Generale de l'Architecture et des Travaux Publics" shows that, in view of the existing knowledge in regard to structures of this kind, there was no invention in the patented device. The article says:

"Above this ordonnance extends an entablature, on which is supported the two sloping sides of the roof, which finish the edifice. The entablature is composed of three stones, hollowed out so as to form a species of vault which marks the size, and these stones, jointed together by rebates, are bound and, as it were, tied together by the two thick (hard) slabs of stone, which cover their sloping sides by means of the hollow made on the lower sides of the former (the slabs) in order to clamp the projections retained on the stones of the vault. These stones are, in their turn, tied together by the ridge which surmounts the building."

The plates which are attached to the description show that the Billaud roof consists of two sloping roof stones, each being a
338 single piece, fastened by projections and cavities to gable stones, each being in one piece and a single ridge stone covering the joint where the upper edges of the roof stones meet, and not resting on the gable stones. The difference between the Billaud roof and the roof of the patent is that the roof stones of the former are so wide that only a ridge stone is needed to cover the joint, while roof stones of the latter are narrower and a wider ridge stone or capstone is needed, which must, of course, be interposed between the roof stones and must rest upon the gable. The ridge stone of the Billaud tomb is a small capstone, which bound the roof stones together and which covered the joint made by their edges. The capstone of the patent is a larger and wider ridge stone than that of Billaud, and by its great weight is more efficient in holding the structure together. In order to produce the patented device the customary skill of the worker in stone neither needed nor received any aid from the inventive faculty.

The bill should be dismissed.

L. B. Bunnell & George H. Fletcher, for plaintiff; Rastus S. Ransom & Philip J. O'Reilly, for defendant.

(Endorsed:) U. S. circuit court. Filed —— —, 1886. Timothy Griffith, clerk.

339 At a term of the circuit court of the United States for the southern district of New York held at the court-rooms thereof, in the city of New York, in said district, on Monday, the 5th day of October, in the year of our Lord one thousand eight hundred and eighty-five.

Present: The Honorable Nathaniel Shipman, judge.

HAMLINE Q. FRENCH, Complainant,
against
OLIVER S. CARTER, GEORGE MARK, and MILTON H. ST. JOHN, Defendants. } In Equity.

This cause having been heretofore brought to a hearing upon the pleadings and proofs therein, and having been argued by George H. Fletcher, Esq., counsel for the complainant, and by Mr. Rastus S. Ransom and Mr. Philip J. O'Reilly, counsel for the defend-
340 ants, and due deliberation having been had thereon, it is now, on motion of Mr. Rastus S. Ransom, counsel for the defendants, ordered, adjudged, and decreed that the complainant's bill of complaint be, and the same hereby is, dismissed upon the merits, with costs to the defendants, to be taxed, and that they have execution therefor.

(S'g'd) H. SHIPMAN, *Judge.*

(Endorsed:) United States circuit court, southern district of New York, in equity. Hamline Q. French ag'st Oliver S. Carter *et als.* Decree. Knevals & Ransom, def'ts' sol'rs, 34 Nassau street, N. Y. city. Due service of a copy of the within decree and notice of settlement is hereby admitted. Dated N. Y., Sept. 24, 1885. (S'g'd) L. B. Bunnell, pl'ff's att'y. (File-mark:) U. S. circuit court. Filed Nov. 28, 1885. Timothy Griffith, clerk.

341 U. S. Circuit Court, Southern District of New York.

HAMLINE Q. FRENCH
vs.
OLIVER S. CARTER & *als.* } In Equity.

It is hereby stipulated that the foregoing papers shall constitute the record to be sent by the clerk of the circuit court of the United States for the southern district of New York to the Supreme Court of the United States on the appeal to said Supreme Court in the above-entitled cause, and that the exhibits be retained by the clerk of the said circuit court until the hearing on appeal in said Supreme Court.

New York, Sept. 13, 1886.

(S'g'd) KNEVALS & RANSOM,
Att'ys for Defendants.

(S'g'd) L. B. BUNNELL,
Att'y for Plaintiff.

(Endorsed:) U. S. circuit court, southern dist. of N. Y. French *vs.* Carter & *al.* Stipulation as to record and exhibits. U. S. circuit court. Filed Sept. 14, 1886. Timothy Griffith, clerk.

342 U. S. Circuit Court, Southern District of New York.

HAMLINE Q. FRENCH
against
OLIVER S. CARTER, GEORGE MARKS, and MILTON H. ST. JOHN.

The petition of Hamline Q. French, complainant herein, respectfully shows:

First. That a decree herein has been enrolled dismissing the bill of complaint of your petitioner on this 12th day of January, 1886, as of Nov. 23, '85, and condemning him in costs.

Second. That your petitioner considers himself aggrieved thereby and desires to appeal to the Supreme Court of the United States from said decree and all the findings interlocutory and final that have been made herein against him.

Wherefore your petitioner prays the allowance of an appeal in due form of law and under the rules of this court to review the same.

And your petitioner will ever pray, &c.

343 H. Q. FRENCH, *Petitioner.*

L. B. BUNNELL,
Solicitor for the Complainant, 170 Broadway, New York.

CITY AND COUNTY OF NEW YORK, *ss:*

I, L. B. Bunnell, being duly sworn, say I am the plaintiff's solicitor. I know the contents of the foregoing petition, and they are true. The plaintiff does not verify it because he is now absent in Syracuse, as I verily believe, he having told me on Saturday last that he expected to leave here Monday. I was told by him to make this verification and sign the petition if he was not back.

L. B. BUNNELL.

Sworn to before me this 13th day of Jan'y, 1886.

____ ____,
____ ____.

344 U. S. Circuit Court, Southern District of New York.

HAMLINE Q. FRENCH,
against
OLIVER S. CARTER, GEORGE MARKS, and MILTON H. ST. JOHN.

On the annexed petition of Hamline Q. French, the complainant herein, and on motion of L. B. Bunnell, solicitor for the complainant, it is ordered that an appeal be, and the same hereby is, allowed herein to the Supreme Court of the United States from the decree and all findings interlocutory and final that have been made herein.

Let all proceedings on the part of the defendants be stayed for ten days from date.

New York, January 13, 1886.

(S'g'd) A. SHIPMAN, *Judge.*

(Endorsed:) U. S. circuit court. Hamline Q. French vs. Oliver S. Carter & *al.* Order allowing an appeal to the Supreme Court. L. B. Bunnell, pl'ff's att'y, 170 B'way, N. Y. U. S. circuit court. Filed Jan. 13, 1886. Timothy Griffith, clerk.

345 Circuit Court of the United States of America for the Southern District of New York, in the Second Circuit.

HAMLINE Q. FRENCH, Appellant,
vs.
OLIVER S. CARTER, GEORGE MARK, and MILTON H. ST. JOHN, Respondents.
} Bond for Damages and Costs.

Know all men by these presents that we, George L. Taylor and John H. Dey, are held and firmly bound unto the above-named respondents in the sum of eleven hundred and fifty dollars, to be paid to the said respondents; for the payment of which, well and truly to be made, we bind ourselves and each of us, our and each of our heirs, executors, and administrators, jointly and severally, firmly by these presents. Sealed with our seals and dated the 18th day of January, in the year of our Lord one thousand eight hundred and 86.

Whereas the above-named Hamline Q. French has prosecuted an appeal to the Supreme Court of the United States to reverse the decree rendered in the above-entitled suit by the judge of the circuit court of the United States for the southern district of New York:

Now, therefore, the condition of this obligation is such that if the above-named Hamline Q. French shall prosecute his appeal to effect and answer all damages and costs if he fail to make his said appeal good, then this obligation shall be void; otherwise the same shall be and remain in full force and virtue.

GEORGE L. TAYLOR. [L. S.]
JOHN H. DEY. [L. S.]

Sealed and delivered and taken and acknowledged this 18th day of January, 1886, before me—

BENJ. T. RHOADS, JR.,
[NOTARIAL SEAL.] *Notary Public* (13), *New York Co.*

346 UNITED STATES OF AMERICA,
Southern District of New York, } ss:

George L. Taylor and John H. Dey, being duly sworn, doth depose and say and each for himself says that he is worth the sum of eleven hundred ($1,100.00) dollars over and above all his just debts and liabilities.

(S'g'd) GEORGE L. TAYLOR.
(S'g'd) JOHN H. DEY.

Sworn to this 18th day of January, A. D. 1886, before me—

BENJ. T. RHOADS,
[NOTARIAL SEAL.] *Notary Public* (13), *New York Co.*

[Endorsed:] Vol. —, page —. U. S. circuit court. Hamline Q. French *vs.* Oliver S. Carter & others. Bond for costs on appeal. L. B. Bunnell, pl'ff's sol'r, 170 B'dway. U. S. circuit court. Filed Jan. 22, 1886. Timothy Griffith, clerk.

347 U. S. Circuit Court.

HAMLINE Q. FRENCH
vs.
OLIVER S. CARTER & O'RS.

Issuing and service of citation upon appeal herein to the Supreme Court is hereby waived.

(S'g'd) KNEVALS & RANSOM,
Def'ts' Att'ys.

Dated Sept. 11, 1886.

(Endorsed:) U. S. circuit court, southern district of N. Y. French *vs.* Carter & *al.* Waiver of citation. U. S circuit court Filed Sept. 14, 1886. Timothy Griffith, clerk.

348 UNITED STATES OF AMERICA, } *ss:*
Southern District of New York, }

I, Timothy Griffith, clerk of the circuit court of the United States of America for the southern district of New York, in the second circuit, do hereby certify that the foregoing pages, numbered from one to three hundred and forty-seven, inclusive, contain a true and complete transcript of the record and proceedings had in said court in the case of Hamline Q. French against Oliver S. Carter, George Mark, and Milton H. St. John as the same remain of record and on file in said office.

In testimony whereof I have caused the seal of the said court to be hereunto affixed, at the city of New York, in the southern district of New York, in the second circuit, this 27th day of September, in the year of our Lord one thousand eight hundred and eighty-six, and of the Independence of the said United States the one hundred and eleventh.

[Seal of U. S. Circuit Court, South. Dist. New York.]

TIMOTHY GRIFFITH, *Clerk.*

Endorsed on cover: S. New York C. C. U. S. No. 359. Hamline Q. French, appellant, *vs.* Oliver S. Carter, George Mark, and Milton H. St. John. Filed July 28, 1887.

U. S. Supreme Court.

HAMLINE Q. FRENCH,
Complainant and Appellant

AGAINST

OLIVER S. CARTER, GEORGE MARK and MILTON H. ST. JOHN.
Defendants and Appellants.

Appellant's Brief.

Statement.

The bill of complaint set forth Letters Patent granted to complainant for a Roof for Vaults, and infringement thereof by defendants.

Defendants denied infringement; alleged want of invention, want of novelty and the insufficiency of the specification in one particular; and gave notice of prior use in the Beekman vault and another unnamed vault, in Greenwood Cemetery, and of the publication of a description of the Alc. Billaud Tomb in the "Revue Generale de l' Architecture et des Travaux Publics," printed in the French language in 1855.

Abandonment by complainant of his invention was not alleged nor claimed.

By the testimony taken, it appeared that appellant constructed the Beekman vault after the de-

sign shown in the patent and completed the same in July or August, 1879.

Scott's Testimony, Record, page 28 (50), x Q. 35.

French's Testimony, Record, page 22 (40), x Q. 113.

Under the allegation of want of invention some evidence seeking to establish a disclosure of the patented device by one Gerard Beekman to complainant, was introduced. This was contradicted by complainant personally, at length and in a manner that carried conviction to the Court below.

Upon the other alleged prior use in an unnamed vault in Greenwood, no evidence was introduced.

As to the state of the art at the time of this invention, no proof was given as to the methods of construction of other cemetery vaults, or other kindred articles, in this country, except rambling statements by experts to the effect that one of the subsidiary elements of the patented combination, to wit: a mortise and tenon, was not new.

The only other attempt to attack the combination shown by the patent was disclosed by the said publication in France, in 1855.

Upon the hearing at the Circuit Court the learned Judge without in terms stating that the first claim of the patent did not contain any patentable invention, seems to have so found without the aid of testimony.

The second claim of the patent, the Court found, was anticipated by the Billaud device, of which notice was given in the answer.

See Opinion; Record, page 199.

Upon these conclusions a decree dismissing the bill was made and enrolled.

From this decree the complainant appeals and presents upon the record as made the following:

Specifications.

The Court at Circuit erred in finding:

FIRST.—That upon the face of the patent, it did not contain a patentable invention.

SECOND.—That "the description of the tomb of the family of Billand" "shows that, in view of existing knowledge in regard to structures of the kind described in the patent, there was no invention in the patented device."

THIRD.—That "the Billaud roof consists of two sloping roof stones, each being a single piece, fastened by projections and cavities to gable stones, each being in one piece and a single ridge stone covering the joint where the upper edges of the roof meet and not resting on the gable stones."

FOURTH.—That "the difference between the Billaud roof and the roof of the patent is, that the roof stones of the former are so wide that only a ridge stone is needed to cover the joint, while the roof stones of the latter are narrower and a wider ridge stone or capstone is needed."

FIFTH.—That the ridge stone or capstone of the patented device "must, *of course*, be interposed between the roof stones and rest upon the gable."

SIXTH.—That the ridge stone of the Billaud tomb bound the roof stones together.

SEVENTH.—That "in order to produce the patented device the customary skill of the worker in stone neither needed nor received any aid from the *inventive faculty*."

The Court further erred in not finding:

EIGHTH.—That in view of the state of the art disclosed by the evidence, the subject matter of the patent was patentable.

NINTH.—That the Billaud roof consists of six pieces substantially different from those shown and employed in the patented device, viz.: two thin slabs of hard stone which perform the duty of shingles, three roof stones which support them and form the gables of the structure and extend from end to end of the roof beneath the slabs above referred to, and an arrised ridge stone whose only duty is to cover the crack at the ridge of the roof and to ornament the exterior.

TENTH.—That the capstone in the patented device performs functions not exhibited by the ridge stone in the Billaud tomb, viz.: to form a part of the slope of the roof, to bind the roof stones by a rebate to the gable, and to constitute at the same time part of the internal covering of the underlying vault.

ELEVENTH.—That the roof stones in the patented device differ essentially from any of the parts described or shown in the Billaud tomb in that they cover only portions of the slopes of the roof and are separated by a space into which any proper device may be inserted, while in the Billaud device the slabs or hard shingles form

the entire slopes of the sides in the customary and usual way of constructing roofs, and do not admit of the insertion of any device between them.

TWELFTH.—That the gable stones in the patented device have no corresponding parts in the Billand tomb.

THIRTEENTH.—That the Billand tomb suggests no elements of utility which have been generally adopted in the arts.

FOURTEENTH.—That the patented device was useful and recognized as such by its general adoption within the limits of demand for such expensive structures.

FIFTEENTH.—That the Court erred in its construction of the statute applicable to the proofs under the allegations of foreign publication as made in the answer.

Point I.

The Subject-Matter of the Patent was Patentable.

The patent sued on is for a *product—a result.*

Two combinations are recited by the two claims, both appurtenant to the same end.

The object of the invention disclosed by the specification is to so construct the covering of vaults which by their nature are exposed more or less to all attacks of the weather, that they shall not be

separated or destroyed by the action of the elements.

This is affected by a combination of large stones, so fitted to each other as to expose substantially one solid mass of proper materials to the exigencies of temperature and exposure, in such a manner that no reasonable attacks of ordinary causes can produce the customary effect of disruption and destruction. What is claimed to accomplish this is patented *as a product.*

To accomplish this result a combination of three elements is employed. These three elements are Gable Stones A A, Roof Stones B B, and a Cap Stone C.

These three elements being put together in a particular way, accomplish the result, covered by the *first claim* of the patent.

Two of these elements, viz.: Gable Stones A A and Roof Stones B B put together in the same particular way accomplish the result covered by the *second claim* of the patent.

These two claims, as we shall see, become complements of each other in carrying out the objects of the patentee, as the adaptability of the invention to different sizes and shapes becomes developed in practice.

The claims of the patent, however, do not cover any of the single parts of the patented articles, except so far as they may be involved in the entirety of the product.

Perfection in vault roofs would be a single stone cut into the required shape and size, without joints or connections.

This is impractable because of the nature of the materials applicable to the purpose, the difficulty of obtaining them *and the consequent expense.*

No roofs of any sort have ever been made for

practical use in any connection, except as combined of many elements.

The differences in the combinations compose the differences in the roofs.

The badges of the elements of this combination which mark them when combined are seven in number:

1st. The roof stones are continuous.

2d. The gable stones are single stones, tying roof stones together by a transverse joint from one roof stone to another.

3d. The cap stone must extend from gable stone to gable stone and lap upon and hold down the roof stones, and form a part of the covering of the interior of the vault.

4th. Roof stones and gable stones are to be locked together by mortises and tenons or their equivalents.

5th. The capstone must be a part of the roof proper, and form part of the slopes of the sides.

6th. There must be no longitudinal or vertical joint at the mid-axis or ridge-pole of the roof.

7th. There must be no transverse joints in the roof stones between the gable stones.

The *first claim* is for an entire and complete roof. The *second claim* is merely a preparation for a roof, and is adaptable to any and all contingencies possible to the device.

One method of closing the cavity left by the second claim is shown by the specification and covered expressly by the first claim. Any other device could with equal propriety be employed.

Any number of continuous or broken roof stones, of any width whatever, can be interposed between the two outer roof stones, and they in turn can be crowned by such a capstone as is exhibited by the patentee or by any other suitable and proper device.

In this way any width of vault can be erected conditioned only upon the length of the gable stones, and any length of vault can be constructed conditioned only upon the length of the roof stone.

See Tuthill's Testy. Record, page 185 (303)
Re-x Q. 325.

Not only as to size is the invention adapted to great possibilities, but as to shape is equally susceptible of variety. "The roof may be made flat curved or inclined" in any direction and in all directions.

Specification; Record, page 139.

The susceptibility of this invention to all shapes and designs of fancy or utility is almost beyond computation or statement.

Except as involved in the consideration of the Billaud Tomb, no one but Tuthill has asserted any claim on the part of defendants that the subject matter of the patented combination was not patentable.

Even Mr. Brevoort nowhere hazards such an opinion.

A close examination of Mr. Tuthill's testimony reveals the fact that when he makes the assertion he does not comprehend what he says.

Record, pp. 169 to 171, xQ's. 168 to 193.

The young man is erratic, unacquainted with the doctrines of the patent law, and his opinions are unreliable.

Point II.

French was the Inventor and his Invention was new.

The patent being presumptive evidence of novelty, defendants had the burden of proof upon them to establish want of novelty.

Only two claims were made by defendants as to want of novelty.

First. That French was not the inventor, but Gerard Beekman was.

Second. That the invention was not novel in that it had been set forth in print in the description of the Alc. Billaud Tomb in 1855.

As to the former of these claims a review of the testimony will be important.

It is to be noted that Mr. Beekman makes no claims or pretensions. Although at hand and competent, he is not called to substantiate defendants' claims. (Record, p. 107, 79 x Q.). The only witness called by defendants upon this branch of the case was Howland, a clerk for Beekman. He testified that he made certain drawings and that the Beekman vault was made therefrom substantially; and the witness further says, "*I don't know of any variation.*" (Record, pages 141 & 142, (237, 238), Qs. 18 & 19). He says, at first the roof stones were to be only over vestibule, and not over catacombs, but "*before the contract was completed* they were made continuous, one stone running clear through under the bank. The roof was composed of three stones, the centre stone overlapping the other two to cover the joints." (Id., Q. 21).

"The side-roof stones * * were on * * lugs or dowels. There were hollows made in the roof

stone, and there was a solid square left *on the wall stone* to prevent their slipping down in any way." Id. Q. 24.

When shown patent sued on, Mr. Howland, under objection, states: "*I don't see any material difference*" between the drawings submitted by me and the patent. He further says there are some slight differences between drawings and patent, but they are the same thing. Page 144, Q. 36, 37, 38, 39.

Howland's testimony is categorically that of one not skilled in the construction of patent drawings being led on willingly by adroit counsel. His testimony as to opinion should be disregarded, and only his *facts* considered.

He further states, when led by counsel, that Mr. Beekman discovered the method of locking stones together by dowels and lugs. Q. 43.

He also states, when asked if the drawing submitted to Mr. French showed the joint in the roof stone, "*I think* it must; *I think* it did." Q. 54. When subsequently produced it did show joints (Rec., p. 331), but how they came there we will hereafter see. He could see no difference between drawing and patent, but was unable to see anything in his drawing which showed a tenon on the gable stone. Q. 71.

He could not recall how the roof stone was fastened to the gable stone (Q. 72), but was of the impression that it was fastened in some way. Q. 73.

When shown the photograph of the Beekman vault as completed (page 326) he suddenly remembers something that he could only have guessed at because he could not see it, and it does not exist; that the roof stones of the vault as constructed are held in place "by a lug cut *not* only on the gable stones but on the side stone from just inside the joint clear back as far as the stone work ran. All

this is in fact error, as French has testified, and as we shall further see. But now comes the grand error of all, for he says, "*the rear wall was made of brick.*" (Q. 75).

The witness exhibits wonderful insight, to peer through solid granite and discern a brick wall where only granite was put!

French's Testimony Rec., p. 21 and 22, x Q. 109.

The fact is, Howland testified (out of a foggy memory) as to facts which he never knew. He sought to establish that he held a position concerning this vault that he never occupied, and assumed that he knew all, when in fact he knew nothing, of the matter.

The fact that he persisted in using the word "*lug*," shows that he believed that the tenon actually employed ran along the side wall and fitted into a recess in the side roof-stone clear through to the back wall, as he himself states. (Howland's Testimony, Record, page 147 (246), Q. 75). And when asked, upon cross-examination, about the sketches he made, he said they were for the front only (x Q. 113 to 119). He thinks, however, he had no conversation with Mr. French about the plan upon which the vault was constructed (x Q. 122), and that Mr. Beekman presented to him the modifications from the original idea of the construction of the front of the vault and other considerations and plans as to the erection of the vault, and these were changed from time to time until the final plan was agreed upon (x Q. 123, 124).

Howland's idea, as adopted by Beekman, was to run the stone work only as far back as the vestibule and not over the catacombs in the usual way, but subsequently it was concluded to have the stone run clear back and rest on the rear brick wall.

(x Q. 126-129.) This was not the same as the patented device.

Renwick's Test'y, Record, p. 137, (219) Q. 19.

Who suggested that continuation of the stone is not told to us by Mr. Howland.

It was left to Mr. French to enlighten us on that point.

We thus find that Mr. Howland's testimony is so foggy, uncertain and unreliable that no sure foundation for any conclusion can be obtained.

On the other hand, we find that Mr. French, when called in rebuttal, is distinct and positive. He asserts upon a basis of memory recalled by the drawings themselves and in every respect supported by the evidence of the drawings, that in no substantial or material respect did Beekman ever suggest any idea now incorporated in his patent, but that they were his own brain-work, developed during the long discussion about the plan and during the process of construction of the Beekman vault.

This patent was conceived when the Beekman vault was conceived as it now stands, and it grew into a full reality with the erection and completion of that vault.

When French's attention was called to Howland's testimony, he told us that the vault called for by the contract, as executed between Beekman and himself was never built; that it called for a brick wall at the rear; the side wall was to be mortised and tenoned into the roof and the front gable stone was to be made in three pieces; whereas the vault was actually built with the front gable stone in one piece, with a gable stone in the rear in place of the brick wall; the mortise and tenon on the side walls is omitted and the stones of the roof are mortised

and tenoned on the gable stones both front and rear. (Record, pp. 100 and 101, Qs. 4-6.) Mr. French says that Beekman or Howland never devised the plan of constructing the roof and locking the stones of the roof together. Nor did they impart it to him (Q. 42). Mr. French then states the original rude, absurd and imperfect ideas of Mr. Beekman as to a common ball joint and of his own ideas of lapping the cap-stone over the roof stones, as shown by the Exhibits Beekman & French Sketches (Record, p. 231); and that when Mr. Beekman's plans subsequently came to him for an estimate, it showed roof stones and a cap-stone in accordance with his diagram, C, but contemplated a brick arch in the rear. (Record, pp. 101–103). Mr. French further contradicts any assumption that Mr. Beekman or Mr. Howland suggested the device of connecting cap-stone and roof stones, or of placing mortise and tenon on gable stone and roof stones or of using a single gable stone in the front or rear or in both places (Record, page 103 & Qs. 30 to 38), or the locking of the two side roof stones together by the gable stones (Q. 42, 43, 44, 45); and that neither Mr. Beekman or Mr. Howland ever suggested any ideas to Mr. French except as shown by their diagram (Q. 47). In the cross examination Mr. French states the whole history of the conception and development of this invention by way of suggestions to Mr. Beekman and his adoption of them and the subsequent construction of the vault in accordance with these instructions.

Record p. 107, 111, 112.

Mr. French never saw Howland until the contract was signed, (x Q. 141). He never made a vault from Howland's plans (x Q. 143).

Howland's plan never showed a tenon on the gable, as is shown by the patent (x Q. 160, 168, 176), nor did it show a continuous roof stone (x Q. 179).

Mr. French further gives the court his reason for changing the tenon from side wall to gable, in that it would be of comparatively little use on the side wall. (x Q 182½).

In the course of the examination, the original Beekman drawings and the tracings made from them were brought together, and their presence and comparison refreshed the memory of the witness as to the growth and development of this device.

He tells us substantially that the drawings as originally submitted by Beekman to him, did not show any mortises or tenons, but they were put on by him with an ordinary writing pen after they were delivered to him. Re-D Q. 198, 199.

By superimposing the tracing over the drawing, it became plain that the tenons were not traced, but put on roughly with an ordinary pen. Re x Q. 205.

When the defendant's sketch appearing at Record, page 332, was shown to French, he says. "I called his (Beekman's) attention to the fact that the side roof stones would have to run into and underneath a portion of the centre stone, which in his sketch was not shown." Record page 119, Re x Q. 218.

The original drawings and the same drawings at present are alike in no substantial respect. Re x Q. 242.

Erasures had been made and new lines drawn. Re-x Q. 244.

The tracings show this, because the new lines are absent in them, Re-x Q. 247; and this recalls his full memory of the facts (Q. 248-252); and that he told Beekman at his office that he must have tenons to "keep the roof stone from sliding from its place."

Q. 251. French also gave the dimensions for the tenons. (Re-x Q. 286-287).

Thus we see how facts at one time indistinct in the memory of an honest man, can be recalled by the development of an association of ideas as though by chance.

Therefore, we find what Mr. French doubted at first (x Q. 169), grew in such manner into such a positive certainty with him, that nothing can shake the conclusion—*Beekman never suggested the use of a tenon in this connection.* Re-x Q. 291.

Therefore, we see that the pretensions of Howrand based upon what the defendants have named falsely "Original drawing of two sections of Beekman vault delivered to complainant, from which he constructed said vault," are absurd and without foundation; that the drawings originally submitted showed but one of the present elements in the patented invention. It did not show any *mortises and tenons* or *continuous roof stones*, or *continuous cap stones*, or *the single tying and locking device*, by means of a single *front and rear gable stone.*

It did, however, show the overlapping of the cap stone upon the roof stones, but this, Mr. French had previously, and in his first interview with Mr. Beekman imparted to him, and shown him by the pencil drawings on the cards at page 231, of the record. French's testimony, page 102, 103, Qs. 16, 27.

And why did not Mr. Beekman come to contradict this story? The reason is that the story is true, and beyond contradiction. Mr. French originated from time to time each and every element of the combination as surely as he applied for the patent upon them as combined.

Renwick's Test'y, Rec., p. 136, Q. 17.

No claim can be made that complainant abandoned his invention to the public, since no notice of any such claim is given by the answers.

Abandonment must be pleaded as a defence.

Agawam Co. *v.* Jordan, 7 Wall., 583.

Further, the proofs show there was no abandonment; the Beekman vault roof was completed either in July or August, 1879; the application for the patent, was filed June 1, 1881.

The two years allowed by statute had not elapsed.

Point III.

The Billaud device does not incorporate the elements of the patented combinations.

The specifications numbered second to twelfth inclusive are so closely allied that they will be considered together.

Defendants have introduced a drawing of an obscure foreign device, mentioned in a technical, rare and comparatively unknown work, with an imperfect description of it in a foreign language.

Not only this, but it is by no means identical nor very nearly similar; the Court finds that it contains substantially the same mechanism, and is an embodiment in a different form, of substantially the same elements.

We have seen the essential characteristics of the patented device. Now what are those of the Billaud tomb? There are two certain roof stones which form the entire slopes of the roof; they meet at a vertical joint at *the ridge* in the same old fashioned way which distinguishes all pitch roofs and the joint at the ridge is covered in the same old fash-

ioned way by saddle boards or a saddle stone or its equivalent.

Renwick's Testimony, Record p. 131.

Not so with the patented device; the only joints in the roof are not vertical, nor at the ridge but in the slope of the roof and upon the sides, and are so arranged that no reasonable accident can befall them and so that no disrupting force may enter.

There are also stones which form the entablature of the Billaud tomb, but these stones operate primarily not only as gable stones but constitute a portion of the internal ornamental vault of the roof and form the entablature of the structure.

See Description of Billaud Tomb, pages 197, 198 of Record.
Webster's Dictionary, Title Entablature.
American Mechanical Dictionary (Knights), Title Entablature.
Renwick's testimony, page 131.

Not so with the patented device; the gable stones are used merely as gable stones and for their utility and strength as the means whereby the roof is tied or locked together transversely; that function being performed and the ends of the roof being enclosed, the sole purpose of the gable stone is accomplished.

There is a narrow strip of stone used to cover the vertical joint between the roof stones at their ridge, (an arrised ridge stone), in the Billaud Tomb; but this forms no part of the roof as such. It does not rest upon the gables at either end. It fills no covering space in the roof. It assumes and discharges the duty of the common saddleboards in an ordinary wooden pitch roof. Nothing more, nothing less. It forms no part of the roof itself.

Whereas in the patented device the capstone does not cover any ridge joint, but constitutes a substantial portion of the sloping roof of the structure, rests upon the gables, has rabbets at its edges so as to lap over the upright seams between itself and the roof stones which next succeed it in the slopes.

Id. pages 131, 132.

The leading principles in the two structures differ.

In the Billaud device the leading principle is the old familiar method of uniting the slopes of the roof at the ridge and covering the joint thus made.

In the patented device one of the leading principles and purposes is to *avoid this*, so as to render it possible for the joints to be covered by the stones forming the covering of the roof, without the aid of saddle stones to cover any ridge joint; and so that for reasons of economy in construction the stones so forming the covering shall be of the smallest possible width.

This latter element we find to make a difference in cost between the material for roof stones of the Billaud and the patented roof of 25 to 50 cents per cubic foot, the former costing $1.75 to $2.00 and the latter $1.50 per foot in the rough.

White's testimony, Rec. pp. 99, 100, R-D. D. Q. 781.

White's testimony, Compl'ts Rec. p. 97 R x Q. 745-748.

This difference of 16 to 33 per cent. in the case of large vaults springs directly from the invention, is a part of it and is of great moment.

Further, in the matter of size of stones there is a practical limit which confines the Billaud design to a comparatively small range of construction.

Again in the Billaud tomb there is a large mass and thickness of stone which underlies the roof stones referred to, and which defendants' experts now agree, in the light of complainant's patent, could have been dispensed with.

But the inner vault stones form an important element in the Billaud tomb; without them the structure would not sustain itself in its present form. The means of holding the roof stones in their places would disappear with them. For, if the hollow entablature were removed between the front and rear walls by a perpendicular cut upon the inside of those walls the projecting surface upon which the slabs are held in place would also disappear and the slabs would slide from their places,

See Complt's Model of Billaud Vault.

Substantial modifications would be necessary in case of such removal. In a word, if they were removed the device would cease to be the Billaud tomb.

As it stands, a glance at the sections both transverse and longitudinal of this tomb and the patented vault as shown at page 234 of the Record will show the structural differences in the two designs. And Tuthill, defendants' witness, says these drawings correctly represent the two different plans.

Record, pp. 165, 166. 142 and 144 x Q.

Can it be said that the simplicity of the patented device is anticipated by the complexity of the Billaud structure?

Again, in this connection it should be remarked that all the adaptability to extension and susceptibility to manufacture in different forms does not occur in the Billaud tomb as in the patented combination.

The patentee has pointed out that his invention can be increased laterally to any extent.

Suppose that the Billaud pattern be extended by the means employed in the present structure, and we find the result ridiculous.

Mr. Renwick has admirably stated and illustrated the result by testimony and diagram.

Record, page 132, Q. 9.
Record, page 234, at foot of page.

Such a roof would be useless.

Therefore we see that not only on account of its enormous comparative expense, but also by the inherent defects of its mechanics, is the Billaud tomb wanting in the elements which constitute the originality, invention and utility of the patented device.

The conclusion, therefore, is necessary and apparent that there is no obvious suggestion in the Billaud tomb of the present patented device. It would still require invention if the Billaud tomb was given, to construct the patented vault. Of course when the patented device is disclosed and its merits understood, it is easy to look backward and say there is no invention; it is like any problem which, when solved, seems easy; but if the patented device was not known to the experts, and they were called to improve upon the Billaud roof would they have produced the patented device, or any substantial equivalent?

How much less could the skilled mechanic have done the same?

Clough *v.* Gilbert & Barker Mfg. Co., 106 U. S., 166.

We find, therefore, in the patented device all the elements of principle in which it differs from, and far outstrips the Billaud plan, referred to in the

specification of error numbers second to twelfth inclusive.

But the appellees on the trial at circuit found it necessary in order to make out their defense to rob the Billaud tomb of its unity and reconstruct it to suit the demands of this extremity.

The proofs show that the Billaud device itself will not answer the necessary requirements to prove anticipation.

In order to establish this, defendants take the said device as shown, and mutilate it, and take such parts as they please, and omit such parts as they think best, and point to it in its mutilated form as a substantial equivalent—an anticipation.

Tuthill's Testy., Record x Qs. 160-165, pp. 168, 169.

But should the Court destroy a patent upon such a claim, even if successfully asserted?

Shall mutilation of an alleged anticipating device be deemed a fair expedient to establish a revocation of a grant once fairly made?

Can a defendant take a device and pull it in pieces, and build up from its severed parts a new combination which shall be held to have the antiquity of the old device?

Such is substantially the ground work upon which defendants proceeded.

Point IV.

The second claim of the patent is not set forth in the description shown by the sketches of the Billaud tomb, nor is it shown in the drawings thereof.

Even if the arrised ridge stone be ommitted from the Billand tomb in the same manner as the second claim of the patent in suit omits the cap stone from the patented device, will the result be similar to the parts combined in the second claim of the patent?

Is there any fair method of making the Billaud tomb similar to the combination described in the second claim of the patent except to reconstruct it entirely?

The chisel is the only instrument equal to such a duty. Mechanical reasoning or ingenuity cannot do it.

If the arrised ridge stone be removed we have a double roof with two thicknesses of stone over its whole surface but with none of its interior unroofed.

It might be a more useful roof as it would then stand that French's second claim if not completed, but it would never be the same combination or suggestive of it.

Neither would it be susceptible of the improvement as shown by the patented structures of Mr. French and evidenced by the Gould or the Gilsey vaults.

The second claim of the patent is the foundation upon which an architect may develop with safety and effect the noblest designs of mansoleums, in any form, of any size required for such purpose, and of a durability beyond any other known.

To urge that the Billaud tomb suggests any such results is not only chimerical but not warranted by the history of the art since that tomb was erected in 1855.

During the twenty-five years in which it stood before the patent in suit was granted, it was never imitated, developed or repeated.

During the two years following the grant of the patent in suit ten expensive structures were erected or begun by the patentee, under his patent, and others made bold to use the same designs against his will. Why did they not use the Billaud device in its integrity instead? This was open and free to their choice without the risk of a lawsuit.

They rather chose, after seeing the design shown to them by the patentee, to procure the erection of it at all hazards even in the face of a threatened lawsuit.

Record. pages 14, 15, Q. 9 to 22.

Point V.

The Court below erred in its construction of the Statutes applicable to the proofs under the allegations of foreign publication, as made in the answer.

The opinion of the learned Justice of the Circuit Court places the proofs of the foreign publication upon the same level, and to be regulated by the same law, as proofs of prior use of the invention in the United States.

While it is now respectfully submitted that the proofs in the record, when fairly construed, will

answer the requirements of such a construction of the statutes, it is also at the same time urged that such is not the law applicable to the proofs in this cause.

In the provisions of the statutes declaring what inventions are patentable, it is stated that "any person who has invented or discovered any new or useful art, machine, manufacture, etc., * * * * * * not known or used by others in this country, and not patented or described in any printed publication in this or any foreign country, etc., etc., * * * * * * may * * * * * * obtain a patent therefor.

United States Revised Statutes, Sec. 4886.

That provision is allowed to stand with full effect in all respects so far as knowledge or use in this country is concerned.

Not so, however, as to proof of foreign use and publication—for Sec. 4923 of the same statutes provides that "Whenever it appears that a patentee, at the time of making his application for the patent, believed himself to be the original and first inventor or discoverer of the thing patented, the same shall not be held to be void on account of the invention or discovery, or any part thereof, having been known or used in a foreign country, before his invention or discovery thereof, if *it* had not been patented or described in a printed publication."

And what is "*it*" that must have been described in the foreign printed publication?

The statute plainly inhibits any tribunal from holding a patent to be void when once granted, by reason of any foreign knowledge or use "of the thing patented" before the invention thereof, if *it*, i. e., "the thing patented," had not been patented or described in a printed publication.

The statute is not only peremptory, but clear.—*The thing patented* must have been described in a

printed publication—*not* something which would suggest it—*not* a stepping stone toward it—*not* a preparation for it—*not* a combination which could by a reasonable amount of ingenuity be twisted into a suggestion of the same principles—but "*the thing patented*" itself.

And as if to further enforce this very clear construction of the statute, the Congress of the United States has set its seal upon it by the course of the enactment of this very phraseology.

By the laws of 1836, the corresponding provision of this statute was made to read that the patent "shall not be held to be void on account of the in-" vention or discovery, or any part thereof, having " been before known or used in any foreign coun-" try, it not appearing that *the same or any sub-" stantial part thereof* had before been patented or " described in any printed publication."

Laws 1836, Chap. 357.
U. S. Statutes at Large, Vol. 5, page 123.

But Congress evidently saw the severity of the words which are italicised by me in the above quotation, since they would prove a bar to much-merited protection of patentees who had labored to evolve substantial benefit to the public at large, and erased them from the statute books by the laws of 1870, which provide in substance that no foreign publication can debar a patentee of his rights if "*the thing patented*" " had not been described in a printed publication."

U. S. Laws, 1870, chap. 230, sec. 62.
U. S. Statutes at Large, 1870, page 208, sec. 62.

Should the question arise if the complainant French believed himself to be the original and first inventor of the thing patented and now the subject of this controversy, the grant of the patent in 1881 is sufficient to settle any doubt. For, since 1870, it has been impossible for any inventor to procure a patent without establishing that fact.

U. S. Rev. Statutes, sec. 4892.

Therefore the grant of the patent is presumptive evidence of the fact and belief required. But in this case the patentee French has in substance testified thereto in addition.

See Record, page 112 (179), 136 x Q.

The law laid down in the authorities is largely based upon the Statute of 1836.

It was under that Act that the leading case of Seymour *v.* Osborne, 11 Wall., 555 was decided.

When therefore the learned Justice Clifford said that "Patented inventions cannot be superseded by the mere introduction of a foreign publication of the kind though of a prior date, unless the description and drawings contain and exhibit a *substantial* representation of the patented improvement, in such full, clear and exact terms as to enable any person skilled in the art or science to which it appertains to make, construct and practice the invention to the same practical extent as they would be enabled to do if the information was derived from a prior patent," he was controlled by the statute of 1836, which provided in effect that if *any substantial part of the thing* patented was described in a foreign publication it might invalidate the patent. How much stronger therefore should have been his language if he was declaring the stricter law as made in 1870, which provides

that only in cases where the *same* device or process or manufacture is shown in the foreign patent, could the patent when once granted be practically annulled.

The same consideration which moved the making of the law should impel its enforcement to the letter, so that the fair earnings of an inventor who has introduced something new, and therefore unknown in this country, should not be deprived of the fruits of his efforts by the diligent linguist and bookworm, who may possibly unearth some suggestion of the same train of reasoning, which leads to the patentable result, by his delvings into occult specialties of learning in foreign lands.

The most diligent research has failed to unearth any prior suggestion of the matters disclosed by the patent in this country.

It is submitted that only by a strained construction can the Billaud tomb be regarded as any suggestion of the idea of H. Q. French, the patentee, even if it had stood at our doors.

To conclude that it is "the thing patented," under the language of the Act, so as to make void the patent in suit, is not within the reasonable construction of the law of 1870, as at present incorporated into the Revised Statutes.

Seymour *v.* Osborne, 11 Wall, 555.
Eames *v.* Andrews, 122 U. S., 40.
Downton *v.* Yeager Milling Co., 108 U. S., 466.
Sewall *v.* Jones, 91 U. S., 194.

Point VI.

The great utility of the Patented Vault is strong evidence of invention.

The remarkable results which have attended the introduction of this invention even if other evidences of novelty were less marked, would establish its patentable novelty (Seymour *v.* Osborne, cited above). An expert has been called as to the comparative cost of the patented vault and of the only other design introduced by defendant's testimony, to wit, the Billaud device. His evidence stands uncontradicted. In summary it is as follows:

		Billaud Design.	Patented Design.
Roof 10′x5′6″	would cost....	$670 88	$315 65
" 19′9″x15′	"	4,593 53	2,401 24
" 30′x15′6″	"	16,460 11	2,757 77
" 30′x19′	"	24,726 00	3,229 67

Record, pages 35-37,

We therefore find that, varying with the sizes, the Billaud design would cost from about 215 per cent. to 765 per cent. more than the patented vault roof for the same size.

Those figures are simply startling.

The reasons for these differences are amply disclosed by Mr. White in a most lengthy and prolific cross examination.

How reliable his computations, were appears by the fact that defendants did not attempt to contradict him.

Of course these patented articles being an extravagent indulgence of taste, the demand for them would be comparatively small. Yet we find that in the two years succeeding the grant of the patent the patentee had erected nine of these vaults and had one more in process of erection.

French's Testimony, p. 16, Q. 34, p. 21, x Q. 102–105.

Its immediate adoption shows the recognition by the public of the merits and utility of the patented device.

Smith *v.* Goodyear, 93 U. S., 492.
Goodyear *v.* Davis, 102 U. S., 224, 228, 229.

The fact that a patent has been infringed by defendants is sufficient as against them to establish its utility.

Lehnbenter *v.* Holthaus, 105 U. S., 94.

Point VII.

Defendants have infringed.

Althrough no reference was made by the Court below to the proofs upon this point, the finding must have been for complainant. However, a brief reference will be made to the matters urged below.

Proof of the construction of the Carter vault in evidence.

Further proof that in July, 1881, defendant Carter called upon the complainant and selected the style of the Beekman vault in Greenwood; that French prepared plans and gave estimates to Car-

ter; that he told him he had a patent on the roof, and showed him a printed copy of his drawings and specifications, appeared by the testimony.

Record, page 14, Qs. 11 to 14.

Subsequently Mr. French called on Mr. Carter at his office and was told by him that he had ordered the work of defendants, Mark & St. John, at a less price. Mr. French further says: "I asked him if it was the same roof construction, and he said it was, and that Mark & St. John informed him that my patent was not valid, and that they could build it also. I warned him then—at the time."

Record, page 15, Qs. 18, 19.

Mr. French subsequently saw the vault partially constructed; saw the plans of the vault, and the roof stones that were being carted to it accorded entirely with his patented roof.

Record, p. 15, Q. 23; p. 16, Q. 32.

James Scott, the man who set it up, also testified that the Carter vault was the same as that described in the patent.

Record, p. 27, Qs. 10–17.

Mr. French further testified that the Beekmam vault roof was built as described in the patent.

Record, pp. 21, 22, x Q. 109.

And Mr. Scott swore that the Beekman and the Carter vaults were alike.

Record, p. 28, x Q. 33; pp. 29, 30, x Qs. 53–65.

Above all, this testimony was uncontradicted. Not one syllable of evidence to deny the charge of infringement was introduced by defendants.

The infringement was amply proved, and no attempt was made to disprove it.

Point VIII.

The specification of Complainant's Patent is sufficient.

In only two respects is the specification criticised by defendants.

First.—Defendant's expert, Brevoort, states that the shape of the gable stones is not clearly given, in that it does not appear whether they went back along the side walls of the sub-structure, or their thickness is limited by the depth of the front and rear walls. He dismisses this matter finally by admitting that since the patent says that the gable stones are "of any required shape and size," the "conflict raising by the drawings and description "is not of much moment." Record, pp. 191-192, (315).

Mr. Renwick, the complainant's witness, disposes of this matter in a most convincing style, and reference to his testimony is sufficient to settle this little question. Record, pp. 134-135, (215-216).

Second.—By an amendment to the answer defendants have come to insist that at the 52d and 53d lines of the specification there is another defect worthy of the attention of the Court.

It is remarkable that through all this prolonged litigation, this alleged fatal error has not been pointed out by experts or pleaded by counsel.

The reason is doubtless because the alleged error or defect does not exist.

The capstone C'' is formed to lap at each side upon the stones B on the whole or any portion of its length.

Here is an alternative given to the person skilled in the art, as to a detail of construction.

The capstone *must lap* more or less, and in the manner *shown* in the drawing and described in the specification. It need not, however, lap its entire length necessarily. The drawing in Fig. 2 *shows* one way in which it need not lap its entire length.

No one can claim that this shoulder or jog in the capstone destroys or in the slightest degree affects its utility.

The specification merely points out to the skilled artisan that the question of the lapping of the capstone the entire length of the roof stone or less is a practical question to be solved by him in view of the exigencies of his particular case.

In no sense can the option of construction in the matter of details be held to point out any means ridiculous or inconsistent with the full idea and sense of the patent.

As a part of the description of one good way in which to make the patented device this alternative of detail construction is offered to the public and shown by the drawing in a sensible and useful form. No skilled mechanic, acquainted with this department, would, after reading the patent, be misled as to the patentee's intention.

The specification is clear, intelligible and complete. It should never be open to the critic of specifications to say they are *too complete.*

Point IX.

The Decree appealed from should be reversed with costs.

L. B. BUNNEL.
Solicitor for Appellant
170 Broadway,

George H. Fletcher,
Of Counsel.

SUPREME COURT OF THE UNITED STATES,

[OCTOBER TERM, 1890.]

HAMLINE Q. FRENCH,
Appellant,

AGAINST

OLIVER S. CARTER, GEORGE MARK and MILTON H. ST. JOHN,
Appellees.

No. 68.

BRIEF FOR APPELLEES.

This is an appeal from a decree of the Circuit Court of the United States for the Southern District of New York, dismissing the bill of the appellant, who was complainant.

The bill was brought for an alleged infringement of Letters Patent No. 244,224 to appellant, granted and dated July 12, 1881, for "Roof for Vaults."

The following defences are set up:

1. The patent is void on its face for the want of any patentable invention or discovery therein set forth.
2. Insufficient and misleading specification of the alleged invention.
3. Anticipation of the alleged invention by printed publication.
4. No invention in the things patented in view of the state of the art.
5. Invalidity of the second claim of the patent for additional reasons.

I.

The patent is void on its face for the want of patentable novelty.

In the specification appellant states that his

improvements relate to the construction of roofs for vaults, mansoleums and structures of similar character built of stone and intended for burial purposes.

And that

the object of my invention is to obtain a building without vertical joints, and one held together and locked at the roof, so that by the locking and the weight of the roof, the structure shall be made as enduring as the material of which it is built.

The alleged improved roof is thus generally described:

My improved roof consists of the front and rear gable stones, the roof stones which are continuous from one gable stone to the other at each side, and held to the gable stones by mortise and tenon or equivalent connections, and the cap stone, which is formed with a rabbet to lap upon the roof stones, and rests upon the gables, by which construction the stones forming the complete roof are securely locked, and without possibility of dislocation without being raised bodily upwards.

Then the appellant proceeds to particularly describe the construction of the roof. He says:

THE GABLES are each a single stone of any required shape and size, and of a length sufficient to connect the roof stones. They are formed upon each of their upper surfaces with tenons.

THE ROOF STONES are also each of a single piece in length or continuous from one gable stone to the other. These are formed with mortises for receiving the tenons.

THE CAP-STONE is a single piece and of a length to rest upon the gable stones at its ends. It is formed to

lap at each side upon the stones, on the whole or any portion of its length. The [CAP] stone is to be lowered to place after the [ROOF] stones are set, and, as will be seen, completes the roof and locks the parts together. This [CAP] stone is in practice of great weight, which weight tends entirely to hold the structure together, and there being no vertical joints to spread open, there can be no disruption or displacement by ordinary means.

The roof at each side of the cap-stone is to be formed of one or more roof stones, each being continuous from one gable stone to the other, and locked, as described. The roof may also be made flat, curved, or inclined.

In place of using the mortises and tenons shown, dowel pins or other equivalent devices can be used for locking the roof stones. I do not limit myself in that respect.

The following claims are made:

1. A roof for vaults and similar structures, consisting of the continuous roof stones BB, gable stones A, connecting and locked to the roof stones, and the cap-stone C lapping upon the roof stones, substantially as shown and described.

2. In roofs for vaults and similar structures, the combination of continuous roof stones BB, and gable stones AA, connected and locked by mortises and tenons, or equivalent devices, substantially as shown and described.

The construction of roof described and claimed is easily understood from the specification furnished by the appellant himself. It is evident that, separately considered, every element of the construction is old and performs an old function. This is a matter of common knowledge.

1. The front and rear gable stones support the roof stones.

2. The roof stones form the greater part of the covering of the roof.

3. The tenons on the gable stones fit into the mortises on the roof stones and thus unite the two classes of stones.

4. The cap stone "completes the roof."

The novelty and the only novelty claimed by the first claim is a roof with front and rear gable stones, continuous roof stones resting on the gable stones and united thereto by mortises and tenons, "dowel pins or other equivalent devices," and a cap-stone overlapping the edges of the roof stones in whole or in part by means of a rabbet, and by its weight holding the structure together.

The specification thus describes the characteristics of the elements making up this combination that forms the roof:

Each GABLE is "a single stone of any required shape "and size, and of a length sufficient to connect the roof "stones," and has a tenon formed on its upper surface.

Each ROOF STONE is "of a single piece in length or "continuous from one gable stone to the other," and is formed with a mortise for receiving a tenon.

The CAP-STONE "is a single piece" and "is formed "to lap at each side upon the [roof] stones on the whole "or any portion of its length."

The *second* claim is for the same elements that are covered by the first claim, minus a cap stone.

The Circuit Court, although it did not find it necessary to pass directly on the point, strongly intimated that the patent did not disclose anything patentable, saying:

Without the aid of testimony in regard to the state of the art I should be strongly inclined to say, upon the face of the patent, that it did not contain a patentable invention. * * * The device seems to be a simple one, and easily conceived, if the vault owner possesses the pecuniary ability to provide granite of the requisite length.

It is submitted that there is nothing of invention or discovery disclosed in the patent. The elements making up the patented structure are so old and well known as to be a matter of common knowledge, and of which the Court will accordingly take judicial notice.

Brown vs. Piper, 91 U. S., 37.
Slawson vs. Railroad, 107 U. S., 649.

Thus:

1, Roofs of diverse forms, and, among others, as the patent says, "flat, curved or inclined;"

2, Roofs made of either stone, wood or metal;

3, Gable stones;

(Says "*Gwilt's Encyclopœdia of Architecture*" [1842], a standard authority: "GABLE. The vertical, triangular piece of wall at the end of a roof from the level of the eaves to the summit.")

4, Connecting and locking of stones by what the patent terms "mortise and tenon, dowel pins or other equivalent device;"

(Says *Gwilt:* "JOGGLE. The joint of two bodies, so constructed as to prevent them sliding past each other by the application of a force in a direction perpendicular to the two pressures by which they are held together. Thus the struts of a roof are joggled into the truss posts and into the rafters. When confined by mortise and tenon, the pressure which keeps them together is that of the rafter and the reaction of the truss post. The term is also used in masonry to signify the indentation made in one stone to receive the projection in another, so as to prevent all sliding on the joints. This may also be accomplished by means of independent pieces of material let into the adjacent stones.")

5, Cap-stones;

6, Lapping of pieces of material on each other to cover joints;

(One of the witnesses, an architect, aptly says [record, p. 181, Q. 294]: "The overlapping of stones to protect joints is a building instinct.")

are all very old and well known.

If it be contended by appellant that although this may be true, it cannot militate against the patent, because it does not appear that prior to appellant's alleged invention, a roof was known having what he claims, viz.:

(*a*) "*Continuous roofstones.*"

(*b*) Gable stones at *both ends* of the roof.

(*c*) Gable stones "*connecting and locked to the roofstones.*"

(*d*) A "*capstone lapping upon the roofstones,*"

we reply that these particulars do not involve patentable novelty:

(1) Making the roofstones "continuous," is but the mere substitution of a long stone for one or more shorter stones.

(2) Placing a gable stone also at the rear of the roof is but a duplication of the usual front gablestone. And that duplication of parts is not patentable, has been settled in this Court.

Dunbar vs. Meyers, 94 U. S., 187.
Slawson vs. Railroad, 107 U. S., 649.

(3) "Connecting and locking" of gablestones to the roofstones, involves noting patentable, as connecting and locking stones by "mortise and tenon or dowel pins, or other equivalent device," mentioned in the patent, are old and well known, and such being the case, there is nothing patentable in

similarly connecting and locking gable stones to roofstones.

(4) "Lapping" the capstone upon the roofstone, is but the use on a stone roof of a method of covering joints long followed in structures and articles of wood and metal.

Indeed, the appellant himself admits that the elements making up his roof are old, but lays claims to them when all assembled in a single structure. After stating that he has been engaged in the business of constructing cemetery vaults from 1877, and before that time was in the marble business (Rec., p. 17; x-Qs. 37, 38 and 44), and that he has never learned any mechanical trade, nor attended any school of technology, architecture or engineering (Rec., p. 17, x-Qs. 46 and 49), he (Rec., p. 23-4) thus testifies:

133 x-Q. You have been familiar during the eight years you have been in this business with the way of putting stones together; built up masonry of all sorts, haven't you?

A. Yes, sir.

134 x-Q. Now, do you testify, Mr. French, that the principle of mortise and tenon of putting stones together is a new and recent discovery?

A. No, sir.

135 x-Q. As a matter of fact it is an old principle, is it not?

A. Yes, sir.

136 x-Q. And it has been in use many years?

A. Yes, sir.

137 x-Q. Your claim is that you are entitled to a monopoly of that principle?

A. As combined.

138 x-Q. For the roof of a cemetery vault?

A. Locking the five stones together, that is all. My patent is not on the tenon, or the mortise, or anything of that kind.

139 x-Q. Now, the way of locking stones together, namely, by mortise and tenon, that is a very old principle?

A. Certainly.

140 x-Q. You don't claim any patent on that?

A. No, sir.

141 x-Q. What you claim is, briefly, that the old principle of mortise and tenon, has been put to a new use by you, that is in locking together the stones of a roof of a cemetery vault, and that is your patent?

A. The combining of the whole roof together, which never has been done before.

142 x-Q. *Now, combining the whole roof together, which never has been done before, you say, is really done by using an old principle in the matching together of stones.*

A. *Yes, sir; certainly.*

Even assuming that appellant was the first to bring together, and in the manner he describes, the elements that form his roof, this although making a useful structure and evidencing a judicious selection of common things for the purpose, does not constitute what the law holds to be invention. Each of the elements making up the roof, viz.,

1, Roof stones;

2, Gable stones;

3, Cap stone;

is still, as in prior structures, roof stones, gable stones and cap stone respectively. The changes that may for the moment be conceded to have been made by appellant, to wit:

1. Lengthening the roof stones so as to extend continuously from end to end of the roof;

2. Duplicating at the rear the front gable stone;

3. Connecting and locking the gable stones to the roof stones;

4. Lapping the cap stone on the roof stones,

are, we submit, in view of what was old and well known, but the exercise of mechanical skill, and accordingly, under repeated decisions of this Court, not patentable because wanting in invention.

Atlantic Works vs. Brady, 107 U. S. 190.
Hollister vs. Benedict Co., 113 U. S., 59.
Gardner vs. Herz, 118 U. S., 180.

The doctrine of these cases eminently applies to appellant's patent. In *Atlantic Works vs. Brady*, this Court said:

To grant to a single party a monopoly of every slight advance made, except where the exercise of invention somewhat above the exercise of ordinary mechanical engineering skill is distinctly shown, is unjust in principle and injurious in its consequences. The design of the patent laws is to reward those who make some substantial discovery or invention which adds to our knowledge and makes a step in advance in the useful arts. * * * It was never the object of those laws to grant a monopoly for every trifling device, every shadow of a shade of an idea which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufactures.

In *Hollister vs. Benedict Co.*, the same doctrine was thus more strongly reasserted:

This is what we ascertain to be the precise idea embodied in the invention described and claimed in the patent, and which, although we find to be new in the sense that it had not been anticipated by any previous invention, of which it could, therefore, be declared to be an infringement, yet is not such an improvement as is entitled to be regarded in the sense of the patent laws as an invention.

In reaching this conclusion we have allowed its due weight to the presumption in favor of the validity of the patent arising from the action of the Patent Office in granting it, and we have not been unmindful of the fact, abundantly proven, and indeed not denied, that the adoption of the present tax paid stamp in lieu of that previously in use by the Internal Revenue Bureau, has proven its superior utility in the prevention of frauds upon the revenue * * * It is but the display of the expected skill of the calling, and involves only the exercise of the ordinary faculties of reasoning upon the materials supplied by a special knowledge, and the facility of manipulation which results from its habitual and intelligent practice; and is in no sense the creative work of that inventive faculty which it is the purpose of the Constitution and the patent laws to encourage and reward.

Gardner vs. Herz is much in point. It related to Gardner's patent for a chair seat made of layers of wood glued together, with the grain of one crossing that of the next, concave on the top, convex on the bottom, and perforated. Before Gardner devised this seat, the following things were known:

1. Chair seats made of layers of wood glued together, the grain of one crossing that of the next;

2. Wooden chair seats concave on the top and convex on the bottom;

3. Chair seats formed of sheet metal, hard rubber and gutta percha, respectively, and perforated.

Although Gardner, by bringing, as he did, into one structure the old and disassociated elements of layers of wood glued together with the grain of one running crosswise of each other, concavity and convexity, and perforations, produced a chair seat of high popularity, and of incalculable utility, it was held that this was not patentable, because it did not rise to the dignity of invention. The court, in giving its opinion, said:

There was a recent instructive case in England in the Court of Appeal before Lord COLERIDGE and Justices FIELD and BOWEN *(Saxby vs. Gloucester Wagon Co., 7 Q. B. Div., 305)*, where the question was, whether the invention specified was such a substantial improvement on what had already been known and published as to render it the proper subject of a patent. The specified patented combination did not before exist; but it existed with the exception of two pieces of mechanism, and their use for the purpose of doing what they did in the combination was well known; but it was held that the combination might have been made "by an intelligent mechanical workman," with no other instructions than those contained in a prior patent to the same inventor, and that there was no novelty in the combination sufficient to constitute a patent. In regard to another branch of the case, it appeared that, taking two prior separate inventions together, every element of the patent in question was to be found in one or the other of those inventions, and it was held that the combina-

tion of the two prior inventions did not require "an exercise of such an amount of skill and ingenuity as to entitle it to the protection of an exclusive grant."

It is therefore respectfully submitted that appellant's patent is void on its face from the want of anything patentable therein disclosed; and that this is so clear that the Court can, as the Circuit Court could have done, so hold without considering any of the other questions in the case, a practice sanctioned by

Brown vs. Piper, 91 U. S., 37.
Slawson vs. Railroad, 107 U. S. 649.

II.

The patent is void by reason of an insufficient and misleading specification.

Section 4888 of the U. S. Revised Statutes provides:

Before any inventor or discoverer shall receive a patent for his invention or discovery, he shall * * * file in the Patent Office a written description of the same and of the manner and process of making, constructing, compounding and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound and use the same.

This imperative provision of law is a pre-requisite to the grant of a patent, and the appellant has failed to comply with it. The law and the reason for it are thus stated in *Grant vs. Raymond, 6 Peters, 218,* by MARSHALL, C. J.: The law "requires as preliminary to "a patent a correct specification and description of the "thing discovered. This is necessary in order to give "to the public, after the privilege shall expire, the ad- "vantage for which the privilege is allowed, and is the "foundation of the power to issue the patent."

As a matter of fact, if the specification be followed, one of the results stated, absence of vertical joints, will not be attained; but, on the contrary, the result sought to be avoided will be inevitably reached. The drawing shows a roof composed of three stones: a cap-stone and a roof stone on each side of the cap-stone. This cap-stone is shown as being rabbeted on each side so as to lap over the roof stones its whole length. But this is not the only form and location of the cap-stone described and set forth. The specification says that the cap-stone "is formed to lap at each side upon the [roof] stones on the whole *or any portion of its length.*"

It is manifest that the instructions given by the specification as to the form and location of the cap-stone are misleading, and that following them would not lead to the avoidance of vertical joints, but would result in the creation of the same. If the cap-stone rested on the roof stones for any distance less than its length, vertical joints would be inevitably formed and prove injurious to the structure. Such construction is as much within the terms of the patent as that represented by the drawing. Indeed, the specification places both methods on a par, and as of equal efficacy, for it says that the cap-stone is to lap upon the roof stones "on the WHOLE or ANY PORTION of its length."

Hence it is seen that the specification is misleading and insufficient, and not in conformity with the provisions of the statute.

It has been repeatedly held that the provisions of the law above quoted are pre-requisites to the granting of the patent, and unless complied with, a party sued for infringement may show that they have not been complied with, and in that way defeat the patent.

O'Reilly vs. Morse, 15 How., 62.
Western Co. vs. Ansonia Co., 114 U. S., 447.
Seymour vs. Osborne, 11 Wallace, 516.
Grant vs. Raymond, 6 Peters, 218.

In *O'Reilly vs. Morse, supra*, the Court held:

Whoever discovers that a certain useful result will be produced * * * is entitled to a patent for it, provided he specifies the means he uses in a manner so full and exact that any one skilled in the science to which it appertains can, by using the means he specifies, *without any addition to or substraction from them*, produce precisely the result he describes, *and if this cannot be done by the means he describes, the patent is void.*

This doctrine was enforced in *Schneider vs. Thill*, 5 *Banning & Arden*, 565. There the claim was for the combination in a lamp, of a lamp burner, a shade-holder and a shade. The aim and object of the invention was to have a lamp that would burn without a chimney. While the drawing showed a form of shade that would aid in effecting the result, the specification impliedly stated that any shade combined with the burner and shade-holder could be used. But the fact was that only a shade having certain peculiarities of form could be used. Accordingly the patent was declared void, by reason of an insufficient and misleading specification. Said the Court, BENEDICT, J.:

The statement of the patent that "it will be seen that with the shade and shade-holder arranged as shown and described, the ordinary burner will perform the required functions without the use of a chimney," is, therefore, incorrect. That result will not be seen unless a shade having certain peculiarities of form be used. What those peculiarities are the patent omits to disclose, *and the omission is fatal to its validity.*

The law in England on the subject is also to the same effect as ours. In *Lewis vs. Mareing*, 10 *B. & C.*, 22, and 4 *C. & P.*, 56, BAYLEY, J., held:

To support a patent it is necessary that the specification should make a full disclosure to the public. If the patentee suppresses anything, or if he misleads, or if he does not communicate all he knows, his speci-

fication is bad. So, if he says that there are many modes of doing a thing, when, in fact, only one will do, this will also void the patent.

In *Neilson vs. Hartford*, 8 *M. & W.*, 806, the Court held, per PARKE, B., that if a specification contains an untrue statement in a material circumstance of such a nature that if literally acted upon by a competent workman, it would mislead him, and cause the experiment to fail, the specification is, therefore, bad, and the patent invalidated, although the jury find that a competent workman, acquainted with the subject, would not be mislead by the error, but would correct it in practice.

It is respectfully submitted that appellant's patent is void for the reason herein stated.

III.

The alleged invention was anticipated by the printed public work, "Revue Generale de l'Architecture et des Travaux Publics."

The answer avers that the alleged invention of the appellants was anticipated by a description of a vault detailed in the words therein mentioned.

The book is entitled "Revue Generale de l'Architecture, Vol. 13, 1855;" was published in Paris in 1855; is a public publication exposed for sale; is to be found in public libraries; in that of the American Institutes of Architects and private libraries; is a standard authority on architecture, and is used and referred to by architects in their studies and business.

Pages 158 and 159 of Record.

The extract which contains the description stated is in the *Record* at page 197, and a translation of the same is at page 198. The extract is taken from a

description of the "tomb of the family of Alc. Billaud," in a cemetery at Paris, and describes the construction of the roof of said tomb. It is stated that this roof

is composed of three stones hollowed out so as to form a species of vault, * * * and these stones, jointed together by rebates, are bound, and, as it were, tied (hooped) together by the two thick slabs of stone which cover their sloping sides by means of the hollow made on the lower side of the former (the slabs), in order to clamp the projections retained on the stones of the vault. These stones are, in their turn, tied together by the ridge which surmounts the building.

Drawings accompany the description, and are printed in the record.

The description and drawings show the following construction of the roof of a vault:

1. Front and rear gable stones.
2. A continuous roof stone on each side of a sloping roof.
3. A tenon on each gable stone for the purpose of entering—
4. A cavity on each of the roof stones.
5. A cap-stone, called a ridge, which completes the roof and lies upon the roof stones, and overlaps them on each side throughout its length.

It is clear that the description and drawings of the Billaud tomb show the construction of roof set forth in the appellant's patent and specified in his first claim, and that the Billaud structure in such as described in the patent, lines 11 to 16, to wit: "A building without "vertical joints, and one held together and locked at "the roof, so that by the locking and the weight of the "roof the structure shall be made as enduring as the "material of which it is built." Besides, the testimony is to the like effect.

WM. B. TUTHILL (*Record*, p. 153) testifies that he resides in the City of New York, is an architect and has been such since 1876. That he studied his profes-

sion with Richard M. Upjohn, composition with Richard M. Hunt, and construction with Maurice Fornachon, and has had experience in cemetery work. His testimony shows that he is one of the most capable and learned men that have testified in this case, and that it is entitled to great weight. He says that there is no invention here, that the principles of construction of the Billaud vault and that of the alleged patent *are identical.* That he has examined the publication, "Revue Generale," and made tracings of the drawings and a translation of the text relating to the Billaud vault (p. 156, Qs. 44 to 49).

He further testifies (p. 157 of *Record*) :

58 Q. Now, describe in your own way in what respect the structure described in the publication and the structure described in the plaintiff's letters patent are similar or alike?

A. They both have continuous roof stones, which are locked to the gable stones by means of mortises, or lugs or shoulders left upon the aforesaid gable stones. They both have ridge or cap-stones which lap upon both of the continuous roof stones, and cover the joint between the same. There is no other essential difference in construction as appertains to the roof as mentioned in the letters patent.

59 Q. Is it or is it not your opinion that there is no material or substantial difference between the structure described in the publication which you have referred to and the structure described in plaintiff's letters patent?

A. *There is no difference in my opinion.*

60 Q. Mr. Tuthill, I wish to direct your attention to the claims made by the plaintiff in his patent, and in that connection to the structure described in the publication referred to by you in your examination, ["The Revue Generale,"] and ask you whether or not in your opinion the claims by the plaintiff in his patent, which I now show you, are or are not described in any material or substantial part in said publication?

* * * * * *

A. *The principles are identical, absolutely identical.*

Vide pages 158–159 of record.

Again :

189 x-Q. In your judgment, the cap-stone of the complainant's vault performed no functions not performed by the ridge stone of the Billaud vault ?

'A. No, sir.

190 x-Q. Suppose the two stones, which you regard as the equivalents in each, and both these vaults were removed, would the result be the same in both instances ?

A. As far as the stability of the vault is concerned—yes.

191 x-Q. So far as the utility of the vault is concerned ?

A. No ; in so far as in one instance it would be decidedly open to the weather, and in the other the weather might get in after a fashion.

192 x-Q. In one instance it would be substantially without a covering, and in the other instance it would be simply a covering which would be open to attack from the weather, as I understand ?

A. Yes, sir.

193 x-Q. In one instance, to wit—that of the Billaud vault, with the ridge stone removed—you would find simply an exposed vertical joint, and in the other instance, to wit—the H. Q. French vault, with the cap-stone removed, you will find substantially an uncovered interior ?

A. Yes, sir.

Vide Record, page 171.

251 Q. Does or does not the complainant's model of the Billaud vault show the shoulder, lug or tenon on the gable stones, by which the roof stones are secured to the gable stones ?

A. It does. * * * .

260 Q. What is the object and purpose in a structure of such as Defendants' Exhibit Revue Generale and the Complainant's Exhibit H. Q. French Vault, of the tenons, lugs or shoulders as shown thereon ?

A. To retain the roof stones in position, primarily.

261 Q. Are the roof stones of the structure shown in Defendant's Exhibit Revue Generale mortised for the purpose of fitting over onto the lugs, shoulders and tenons of the vault stones so as to hold them in place ?

A. Yes, sir. * * * And is so described in the text of the publication, the "Revue Generale."
Vide Record, page 176–7.

HENRY L. BREVOORT, a mechanical engineer, and expert in patent cases, who has had a practical mechanical experience in machine shops, besides his education as a mechanical engineer, and has had experience as an expert witness in upwards of three hundred patent cases, testifies (*Record*, p. 190, Q. 3) that he has read and understands the patent of appellant; that he has read the French publication referred to, and that he finds the latter to describe the invention set forth and claimed in the former. He states (p. 192) that in the French publication:

1. I find described therein a burial vault built for holding the dead, and built evidently with the object in view of making a strong and permanent structure, which by its configuration would resist moisture, presenting no vertical joints for the rain to get through, and which is so made as to stand in its position without the use necessarily of cement or the like material.
2. The vault shown * * * has side and end walls, as has complainant's. It has two continuous roof stones and a continuous cap-stone, and it has two gable stones surmounting the end walls and apparently of the same shape and configuration as those of complainant.

MR. BREVOORT also testifies that in the French publicatiou the roof stones are united to the gable stones by a mortise and tenon device and (p. 193) continues:

Thus the old French publications shows:
First. Two continuous roof stones.
Second. Two gable stones.
Third. A cap-stone.
Fourth. Means for locking the roof stones to the gable stones.

And this is the invention of the first claim, while the same publication shows and describes the combination of the second claim, which consists of three of the elements of the first claim, the cap-stone being omitted.

Thus the old French publication shows the inventions of complainant.

Vide Testimony of Brevoort, page 193 of *Record.*

The only way in which the appellant attempts to avoid the effect of the description contained in the *Revue Generale* is by having his expert witness, MR. E. S. RENWICK, draw untenable distinctions between the Billaud and complainant's structures.

Mr. Renwick, in this attempt, after first conceding (*Record*, p. 131) that

the Billaud tomb is a structure which contains, among other things, roof stones of some kind, gable stones, and a cap-stone of one kind, and that these are combined together,

proceeds to say, same page of *Record:*

but I also find that the said devices differ substantially from those which are recited in the first claim of the said French patent, and are combined in a substantially different manner.

In view of the fact that the description of the Billaud vault in the *Revue Generale* discloses the alleged invention of the appellant, and of the further fact that two competent witnesses, Mr. Tuthill, an architect, and Mr. Brevoort, a mechanical engineer, both gentlemen of learning and ability, had testified to the same obvious fact, it becomes of interest to know how Mr. Renwick had the hardihood to testify that both the elements and their combination in the two structures are "substantially different."

1. Mr. Renwick says that the roof stones in the old

publication differ substantially from the roof stones described in the patent:

in the respect that each covers the entire slope of one side of the roof, instead of forming only a portion of each slope of the roof with a space between them, as the roof stones of the patent do.

Mr. Renwick's attempted distinction is wholly imaginary, and is immaterial and irrelevant.

(*a*) There is no authority for saying that the appellant's invention is limited to a structure wherein each roof stone covers only a portion of each side of the roof, and that a considerable space must exist between the roof stones. The patent shows that the roof covering is to be composed of three stones; that is, two roof stones and a cap-stone. Whether a greater or less space exists between the roof stones is immaterial. No matter what is the extent of that space so long as the cap-stone covers that space, the result aimed at is attained.

(*b*) When Mr. Renwick seeks to show, as he has attempted, that in the appellant's structure there must be a *slope* on each side of the roof, he is greatly in error, for while it is true that the drawing shows sloping roof stones, the appellant simply gives that as but one form of construction, as he says in his patent, Record, page 139, "The roof may also be made *flat, curved or inclined.*"

2. Mr. Renwick further says that the cap-stone in the old publication, and which therein is called a ridge,

differs substantially from the cap-stone recited in the first claim of the patent, and described in the specification, and represented in the drawings thereof, in the respect that it is a mere covering for the ridge joint of the roof stones, and forms no part of the roof itself; whereas the capstone recited in the said claim does not cover any ridge joint, but constitutes a substantial portion of the sloping roof of the structure, as it

intervenes between the lateral roof stones which form parts of the slopes of the roof, and itself rests upon the gables.

(*a*) When Mr. Renwick says that the cap-stone or ridge of the Billaud tomb forms "no part of the roof," he says what is not the fact, as it is evident that the ridge, as the appellant's specification, says of the cap-stone, "completes the roof," and without the ridge the roof would be incomplete. Take away the ridge and the structure would be unprotected from the elements, because the roof would be incomplete.

(*b*) While it is true that in the appellant's patent the cap-stone is shown to cover a considerable portion of the roof, this construction as compared with the cap-stone or ridge of the Billand tomb *is but a mere matter of degree; each serves the same purpose, to wit, "completes the roof"* by closing up the space between the roof stones and binding the latter together. Appellant's specification says that the cap-stone "*completes the roof and locks the parts together*," and also that it "is in practice of great weight, which weight tends entirely to hold the structure together." *This is also true in the case of the Billaud tomb.* This is precisely *the result attained in its construction.*

3. Mr. Renwick, after acknowledging that *the roof stones of the Billaud tomb are held together and prevented from moving "by means of projections and cavities which operate in the same manner as mortises and tenons,"* says:

the combination of stones in the said Billaud tomb is substantially different from that recited in the first claim of the patent, in the respect that the former does not have any cap-stone which rests upon the gables and forms a portion of the slopes of the roof,

and also in the respect that the Billaud tomb does not contain any stone forming a portion of the slopes of the roof proper and resting upon the gables, which has rabbets at its edges so as to lap over the upright seams in the slopes or the roof between itself and the roof stones which next succeed it in the slopes.

Page 131 of Record.

(*a*) The differences that Mr. Renwick attempts to make between the two structures are imaginary and not real. It is not true that it is essential in the appellant's structure that the cap-stone should rest on the gables. What is the function of the cap-stone? To cover the greater or less space between the roof stones, and by its weight preserve the parts of the structure from displacement. The specification itself says, as already noted, that the cap-stone "completes the roof" and "is, in practice, of great weight, which weight tends entirely to hold the structure together." These results are likewise attained by the cap-stone in the Billaud tomb.

Again, the first claim excludes the necessity alleged by Mr. Renwick. This claim is expressly for the "continuous roof stones, gables stones connecting and locked to the roof stones, and the cap-stone lapping upon the roof stones." Hence the only characteristic of the cap-stone that the appellant himself claims is that it should lap upon the roofstones.

(*b*) It is not necessary that the appellant's structure should have a sloping roof. As already mentioned, the specification expressly says that "the roof may be made *flat*, curved or inclined." Hence, when Mr. Renwick says that the cap-stone in appellant's structure "forms a portion of the *slopes* of the roof," *he is clearly in error.*

As to the matter of the second claim, to wit, "The

" combination of continuous roof-stones and gable-
" stones connected and locked by mortises and tenons
" or equivalent devices," Mr. Renwick asserts (p. 132), that the same is not found in the Billaud tomb

for the reason that the latter does not have two lateral roof stones which cover only portions of the slopes of the roof, and are separated by a space into which a cap-stone, *or a cap-stone and other continuous roof-stones*, may be inserted, but contains on the contrary two roof stones * * * which form the entire slopes of the roof, and do not admit of the insertion of a stone of any kind between them.

This is precisely what the Billaud vault does have, as testified to by both Mr. Tuthill and Mr. Brevoort, and Mr. Renwick would have so testified, if he had taken the time to investigate the subject, or had an honest desire to ascertain the truth.

Mr. Renwick is again greatly in error.

(*a*) The combination of the second claim is expressly limited to roof-stones and gable-stones, and has no reference whatever to a cap-stone. It is evident that any person who should make or use the combination of elements recited in the second claim would be an infringer, notwithstanding he did not use in the same connection a cap-stone or anything else performing its function.

(*b*) If Mr. Renwick's contention were adopted, there would be no force in the second claim, for the only difference between it and the first claim is that the cap-stone is mentioned in the latter and not in the former. According to Mr. Renwick the second claim is the same as the first with the cap-stone or ridge-stone omitted.

(*c*) Mr. Renwick is also greatly in error when he says that in the appellant's structure there is a space between the side stones for the insertion of a cap-stone "*and other continuous roof stones.*" It is

clear that the only object of that space is for the insertion of the cap-stone *alone*.

An attempt is also made by Mr. Renwick to show a substantial difference in cost and utility between the Billaud tomb and appellant's structure when each is to be made of a large size. He says (p. 132 of the *Record*) that—

if a structure is to be built upon the principle embodied in the Billaud tomb, each slope of this roof, however large that slope may be, must be formed of a single stone; and when the structure is large, the cost of procuring and handling such stones must be enormous.

This is absolute nonsense, unworthy of the man who makes the statement.

This evidence is of no weight, *for it is obvious that the same result would follow in a vault roof of extremely large size constructed like that of appellant.* The patent of the latter is not limited to any particular length and width of roof stone.

Mr. Renwick thus continues in the same strain:

If, however, the attempt should be made to construct the roof of a vault of large size, of a number of stones, for the purpose of avoiding the great expense of large stones * * * the several stones forming the slopes of the roof would abut against each other with upright joints, as the roof stones of the Billaud tomb abut at the ridge, and these upright joints in the slopes would be covered by pieces of stone corresponding with the ridge stone of the Billaud tomb, so that the roof of the structure would correspond in substance with the sketch, figure 1, which I now produce, in which the several roof stones forming the slopes of the roof are designated 'B,' and the stones covering the joints are designated 'A.' Such a structure would afford no protection against the destructive elements, because water would collect at the upper side (*a*) of each lateral covering piece; the water also would enter the joints, and the roof would speedily be rendered valueless.

The alleged structure stated by Mr. Renwick *is not even suggested in* the old publication that describes the Billaud tomb, *but is solely the invention of Mr. Renwick himself, pure and simple. This shows his desire to help out appellant.* The construction that he imagines is a most extreme and absurd one, and is both unfair and unworthy of a man possessing his attainments. But what he next says is still more remarkable and demonstrates the unreliability of his statements in this case. Says he, pages 132–3:

> *The system which is described in the French patent,* on the other hand, enables a large structure to be roofed efficiently with stones of comparatively small size, as each slope of the roof may be formed of several stones, *the upright joints of which are securely protected against the action of the elements by the overlapping portions of the higher stones forming each joint respectively.*

(*a*) The testimony italicised is destitute of foundation, and is absolutely untrue. No such construction is stated or even intimated in the patent.

(*b*) The only overlapping mentioned in the patent is that of the cap-stone on the roof-stones.

(*c*) While it is true that the specification says that the "roof at each side of the cap-stone is to be formed of one or more roof-stones," yet there is nothing to show that in the case of two or more roof-stones on each side of the cap-stone, the former are to lap on each other.

(*d*) The specification says that the cap-stone "is formed to lap at each side upon the [roof] stones on the whole or any portion of its length." That is, no matter how many roof-stones there may be, the cap-stone must lap on them all "on the whole or any portion of its length."

(*e*) Following the specification would lead to the same absurd construction invented by Mr. Renwick when he speaks of a Billaud tomb constructed

with more than two roof-stones. The specification states that more than one roof-stone may be placed on each side of the cap-stone, and that the latter overlaps the roof-stone "on the whole or any portion of its length." Now, if two roof-stones be placed on each side of the cap-stone, and the latter overlaps the former its "whole" length, *the cap-stone cannot overlap the second stone without first completely covering the first stone;* and in such case of two roof stones, if the cap-stone overlap the roof stones only a "portion" of its length, *there will be vertical joints* between the balance of its length and the adjacent roof stone, and between the roof stones themselves, and the specification is absolutely silent as to what manner the roof stones are to be connected as between themselves.

Mr. Renwick follows up his statement under consideration by producing a drawing marked "Exhibit Renwick Pen Sketch," which he says represents the two alleged constructions of which he speaks. Figure 2 of this drawing, he says, shows a construction of roof formed of several roof stones on each side of the cap-stone. It is worthy of note that he does not say he obtains this drawing from the patent. He simply says that he produces it. As already shown, this figure 2 not only represents a construction of roof not even hinted at in the patent, but is a manifest departure from the terms of the patent in not having the cap-stone lap over the roof stones "on the whole or any portion of its length."

Appellant endeavors to support his patent by evidence that when a particular kind of stone, granite, is used in both cases, his roof is cheaper than the Billaud, and this through one White, twenty-eight years of age, who calls himself "General Manager of the Hurricane Island Granite Co.," of Maine, and who, after saying

that he has been accustomed to estimate "the cost of vault roofs and other structures made of stone," and has "estimated upon upwards of *1,000* of such articles," admits (Record, p. 46, x-Qs. 127–8) that he has but *once* made an "estimate of the cost of the roof stones of an actual cemetery vault;" and (x-Qs. 20 and 52) that he is not a quarryman and has had no practical experience as a stonecutter.

White, on being asked (Q. 9), "What material" he "would regard as best adapted for use in these [appellant's and the Billaud] roofs in the United States," names *granite;* and then (Qs. 10 to 18) gives the cost of variously sized *granite* roofs made and assumed to be made according to appellant's patent and to the Billaud, respectively, and puts a higher cost on the latter. His competency to estimate the cost of a Billand roof, and what he means by the cost of both roofs, he thus states (Record, p. 78, x-Q. 560–1–2): "I think I am competent to make an estimate on the roof of the Billaud vault for my own works and my own quarry, or an estimate that will apply to that—that *I would sell* the stone for. * * * That is as far as I can go. * * * I cannot make working drawings and designs for such a piece of work as the Billaud vault."

It is submitted that the fact sought to be established by White's evidence is of no force. The word "granite" nowhere appears in the patent, which states that the "improvements relate to the construction of roofs for vaults * * * built of *stone.*" Obviously, the patent includes any of the many kinds of stone suitable for the purpose.

(*a*) White states (Q. 10–11) that, if made of granite, a Billaud roof 10 feet long and 5½ inches wide, would cost more than one made like the patent, and (Q. 12–13) that a Billaud roof 19 feet, 9 inches long and 15 feet wide would be more expensive than the Beekman vault (claimed to be like the patent).

But he says (Record, p. 83, x-Q. 605-8) the higher cost arises from the Billaud under roof stones being "cut away to a great extent in a very difficult manner," and * * * "labor in digging out there must be done very slowly, as it is not free but on two sides," and also (x-Q. 609 to 622, x-Q. 676–7, and x-Q. 699–700), that this higher cost would arise in getting out the stones large enough and then cutting them, and (x-Q. 684) a long, wide outer roof stone of somewhat limited thickness and rather thin, as in the Billaud, would be more expensive than a stone of the same cubical contents.

White also admits (x-Q. 699–700) that there would be no difference between the cost of the Billaud covering roof stones and that of the Beekman roof stones; that (x-Q. 737–8–9) the capstone in each might be made so long that the Beekman would be more expensive than the Billaud; that (x-Q. 754) the Beekman gable stones would be cheaper "because very much smaller and much more easily procured;" and (x-Q. 758–9 and 781–2) because the Beekman has not the Billand inner roof stone and has narrower roof stones.

It can be readily seen that White's estimate of the cost of the Billaud roof is the result of a slavish adherence to the precise shapes of the elements composing it. But we submit that an estimate of cost on such a theory cannot militate against the fact that the Billaud is a substantial anticipation of both claims of appellant's patent.

(*b*) White also says, in effect (Qs. 14 to 17), that, if made of granite, a Billaud roof 30 feet long and 15½ feet wide, and of the proportions of what is called the Gilsey vault, would cost over five times more than the latter; and that a Billaud roof 30 feet long and 19 feet wide, and of the proportions of the vault termed the Gould, would cost over seven times more than the latter.

But this is irrelevant, as neither the Gilsey nor the Gould (as can be seen from their drawings in the Record

between pages 138–9) is made according to the patent. Each has *two* roof stones on both sides of its capstone; and the roof stones in each set are made to lap over each other. As already shown, such a construction is unwarranted by the patent, and White (x-Qs. 497 to 501 and 693) so admits; and also (x-Qs. 504–5) states that the Gilsey roof would be less expensive than appellant's, because it is cheaper to get two or more stones than "to procure from the quarry and cut a very large stone." This would be likewise the case in the Gould.

Besides, White says (x-Q. 36) of the Gilsey—and all of which is at least equally true of the Gould—"I consider that an *unusual-sized roof requiring stone of an unusual size to build it*;" and that (x-Qs. 690 to 693) the Gilsey stones are long and thin, but not wide, because cut in half lengthwise, making *two* stones on each side of the vault, the patent showing but *one* stone on each side; and (x-Qs. 695–6) that, consequently, the Beekman, if made like the Gilsey, would be "considerably more" expensive than the latter.

It is clear that the same principles of construction obtain in the alleged patent as are set forth in the published description of the Billaud vault. The roofs of both are formed of the same number of stones. Both are locked together by mortise and tenon. Both accomplish the same purpose—that of preventing the exposure of any vertical joint to the action of the elements.

We submit that the description of the Billaud vault discloses the combinations set forth in the first and second claims of the appellant's patent, and fully anticipates them.

IV.

In view of the state of the art, as disclosed by the French book, "Revue Generale," etc., there is nothing patentable disclosed in the appellants' patent.

The appellants' vault roof is not new, nor is it an invention. The principles of construction are as old as architecture itself and as well known. If it is claimed that the result—the combination, that of an apparently continuous roof, locked together by these old principles so as to present no vertical seams to the action of the elements—is the patentable feature, then any novelty therein is completely negatived by the drawings and descriptions in the prior printed publications just considered. Here there was nothing that called into play that inventive faculty of mind put forth in search of new results or new methods, creating and calling into being that which before had not existed. Here there was nothing new in the principles of construction, the structure itself or of its purposes, nothing but what would and has naturally occured to any skilled mechanic and operator in the ordinary progress of manufacture.

At the risk of repetition we will briefly quote from the testimony of Mr. Tuthill, than whom there was no more able and learned witness in this case. He testifies, p. 181:

Q. How many parts of stones are essential to the construction of the roof of the Billaud vault?

A. Five.

Q. What are they?

A. Two gable stones, with shoulders, lugs or tenons, engaging in mortises in the under sides of the two continuous roof stones, which in their turn are tied together by an overlapping ridge stone.

Q. Is the ridge stones of Complainant's Exhibit Vault essential to its completeness?

A. Yes, sir.

Q. Is the same true of complainants of the ridge stone of Complainant's Exhibit Model Billaud Vault?

A. Yes, sir.

Q. Mechanically, would it not be considered as defective to omit the ridge stone in the Billaud vault as to omit the ridge in Complainant's Exhibit Vault?

A. Yes, sir; it would be the same in kind, but different in degree.

Q. Are the constructive features of the ridge stone in Complainant's Exhibit Vault and Complainant's Model Billaud Vault of equal importance?

A. Yes, sir.

Q. Do they assist to clamp together the roof stones?

A. Yes, sir.

Q. What is the mechanical device used in Complainant's Exhibit Model Billaud Vault?

A. A mortise running almost the entire length of the ridge stone.

Q. Is there anything in Complainant's Exhibit Vault similar in principle to this ridge mortise in the Complainant's Exhibit Model Billaud Vault?

A. Yes, sir; the upper narrow surface of the roof stone is cut so as to form a tenon, which includes the whole width of the stone, the length being only slightly less than the length of the same. This fits into a mortise on the side of the ridge stone formed by the overlapping rebate, and two shoulders left on extreme end of the stone.

Q. Is any combination of dowels and overlapping stones a novelty?

A. Decidedly no. Dowels, shoulders, lugs and tenons were used as far back as the Pyramids, and are common in Roman work. Tenons can be shown in work which dates from 480 B. C. in the Temple of Jupiter Olympus, at Agrigentum. *The overlapping of stones to protect joints is a building instinct.* Even the prototype of the complainant's roof stones can be seen in the so-called Druidical monuments, the cairns and tumuli in well-known locations of the mound-building peoples of the west of Europe, from Scotland to Spain.

Record, p. 181.

It is conceded by the appellant that the description of the Billaud tomb in the "*Revue Generale*," disclosed the construction of a vault formed of a gable stone front

and rear,, having two continuous roof stones fastened to the gable stones by means equivalent to a mortise and a tenon, and a cap-stone covering the space between the roof-stones and serving to hold the structure together; and that this construction accomplished what the appellant aimed at, to wit, a roof without vertical seams.

The only difference endeavored to be made out between the Billaud roof and that of appellant is, that in the former the cap-stone does not rest on the gables, and is not interposed *between* the roof stones.

This difference, if it exists at all, *is in degree only, and not in principle.* The cap-stones in both "complete the roof." They serve to cover the space between the roof-stones whether it be large or small. They are fastened to the roof-stones in the same way by equivalent means. Remove the cap-stones in both, neither roof would be mechanically complete, both would then be exposed to the elements; the roof of appellants' structure, to a greater degree, because of the larger space between the roof-stones, and to that extent, at least, its construction is inferior to the Billaud roof.

We submit that even if these variations be considered of moment, there was no exercise of what the law denominates the inventive faculty in passing from the Billaud construction to that particularly set forth in the patent. As a matter of fact, the Billaud roof was one which did away with vertical seams, and was one in which the weight of its cap-stone served to hold the structure together. No results other than these are attained by the structure of the appellant. And these results are reached in both structures by the same means. The variation and the only variation between the two roofs is that in the Billaud the cap-stone lies over the space between the roof stones, and in the appellant's the cap-stone lies over and between that space. But this variation does not constitute invention. It may be that the appellant's roof is a better one, but

that is in the range of only mechanical skill, which the law does not cover. The law is designed to protect only structures or devices that are the attributes of invention. A few of the leading authorities that establish this doctrine will be cited.

In *Smith vs. Nicholas, 21 Wallace, 121,* this Court held that:

> A mere carrying forward or new or more extended application of the original thought—*a change only in form, proportions or degree, the substitution of equivalents,* doing substantially the same thing in substantially the same way by substantially the same means, with better results, is not such invention as will sustain a patent.

This case was followed and approved by this Court in *Roberts vs. Ryer, 91 U. S., 150*

The remarks of Justice BRADLEY in a somewhat recent case are so full of instructive argument, and so apt in their application, and in support of the principle for which we are now contending, as to call for a full quotation here.

The case of *The Atlantic Works vs. Brady* was based on a patent for a dredging boat with a screw in its stern, boats with screws in their sterns having previously been used for dredging by running them stern foremost. This Court held that patent to be void for want of patentability, there being no invention but simply the result of mechanical skill, and speaking by Justice BRADLEY, said:

> The process of development in manufactures creates a constant demand for new appliances which the skill of ordinary head workmen and engineers is generally adequate to devise, and which, indeed, are the natural and proper outgrowth of such development. Each step forward prepares the way for the next, and each is usually taken by spontaneous trials and attempts in a hundred different places.
>
> To grant to a single party a monopoly of every slight advance made, except where the exercise of invention

somewhat above the exercise of ordinary mechanical or engineering skill is distinctly shown, is unjust in principle and injurious in its consequences. The design of the patent laws is to reward those who make some substantial discovery or invention which adds to our knowledge and makes a step in advance in the useful arts. Such inventors are worthy of all favor. It was never the object of those laws to grant a monopoly for every trifling device, every shadow of a shade of an idea which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufactures. Such an indiscriminate creation of exclusive privileges tends rather to obstruct than to stimulate invention. It creates a class of speculative schemers, who make it their business to watch the advancing wave of improvement, and gather its foam in the form of patented monopolies, which enable them to levy a heavy tax upon the industry of the country without contributing anything to the real advancement of the art. It embarrasses the honest pursuit of business with fears and apprehensions of concealed liens and unknown liabilities to law suits, and vexatious accountings for profits in good faith.

Atlantic Works vs. Brady, 107 U. S., 199.

The recent case of *Hollister vs. Benedict Mfg. Co., 113 U. S., 59*, not only in effect approves the preceding decisions of this Court on the subject, but goes even further. The Court, after stating the nature of the invention, says:

This is what we ascertain to be the precise idea embodied in the invention described and claimed in the patent, and which, *although we find to be new in the sense that it had not been anticipated by any previous invention*, of which it could, therefore, be declared to be an infringement, *yet is not such an improvement as is entitled to be regarded in the sense of the patent laws as an invention.*

In reaching this conclusion we have allowed its due weight to the presumption in favor of the validity of the patent arising from the action of the Patent Office in granting it, and we have not been unmindful of the fact, abundantly proven, and indeed not denied, that

the adoption of the present tax paid stamp, in lieu of that previously in use by the Internal Revenue Bureau, has proven its superior utility in the prevention of frauds upon the revenue. * * * *It is but the display of the expected skill of the calling, and involves only the exercise of the ordinary faculties of reasoning upon the materials* supplied by a special knowledge, and the facility of manipulation which results from its habitual and intelligent practice; *and is in no sense the creative work of that inventive faculty which it is the purpose of the Constitution and the patent laws to encourage and reward.*

To the same effect is the decision of this Court in the case of *Thompson vs. Boisselier, 114 U. S., 1,* where preceding cases are cited and collated.

What is sought in all these patents is strength and lightness, together with cheapness and durability, but they are simply modes of construction, and that described in this patent embraces nothing that is not old, and really nothing that is patentable; *that is, which involves invention rather than mechanical skill.*

Pattee Plow Co. vs. Kingman, 129 U. S., 294.

"To cut the block [for street pavements] so as to get the grain in a particular way and so as to avoid waste requires simple mechanical skill without involving invention." The patent was held void for that reason. *Brown vs. Dist. of Columbia, 130 U. S., 87.*

Again. In the following case, in which the question of the patentability of an improvement in car gates was before this Court for its decision, it was held:

The patentee is entitled to the merit of being the first to conceive of the convenience and utility of a gate opening and closing mechanism, which could be operated efficiently by an attendant in the new situation. His right to a patent, however, must rest upon the novelty of the means he contrives, and carry his idea into practical operation. It rarely happens that old instrumentalities are so perfectly adapted for a use for which they were not originally intended as not to re-

quire an alteration or modification. If these changes involve only the exercise or ordinary mechanical skill they do not sanction the patent; and in most of the adjudged cases, where it has been held that the application of old devices to a new use *was not patentable, there were changes of form, proportion or organization* of this character which were necessary to the new occasion. The present case falls within this category.

Aron vs. Manhattan Railway Co., 132 U. S., 89.

The recent adjudication of this Court, in the case of *Hill vs. Wooster, 132 U. S., 693*, is also directly in point:

This Court * * * has repeatedly held that under the Constitution and the Acts of Congress a person to be entitled to a patent must have invented or discovered some new and useful art, machine, manufacture or composition of matter, or some new and useful improvement thereof, and that "it is not enough that a thing shall be new, in the sense that in the shape or form in which it is produced it shall not have been before known, and that it shall be useful, but it must, under the Constitution and the statute, amount to an invention or discovery." The cases on this subject are collected in *Thompson vs. Boisselier, 114 U. S., 1.* To them may be added *Stephenson vs. Brooklyn R. R., 114 U. S., 149; Yale Lock Co. vs. Greenleaf, 117 U. S., 544; Gardner vs. Herz, 118 U. S., 180; Pomace Holder Co. vs. Ferguson, 119 U. S., 335; Hendy vs. Morris Plow Works, 127 U. S., 370; Holland vs. Shipley, 127 U. S., 396; Pattee Plow Works vs. Kingman, 129 U. S., 294; Brown vs. District of Col., 130 U. S., 87; Day vs. Fair Haven Co., ante, 98; Watson vs. Cincinnati Co., ante, 161; Marchand vs. Einken, ante, 195; Royer vs. Roth, ante, 201.*

Again, in *Burt vs. Evory, 133 U. S., 349*, it was held:

It is a mere aggregation of old parts, with only such changes of form and arrangement as a skilfull mechanic could readily devise—the natural outgrowth of the

development of mechanical skill as distinguished from invention. * * * It is well settled that not every improvement in an article is patentable. The test is that the improvement must be the product of an original conception (Pearce vs. Milford, 102 U. S., 112; Slawson vs. Grand St. R. R., 107 U. S., 649; Munson vs. N. Y., *124 U. S. 601*, and many other cases. And a mere carrying forward or more extended application of an original idea—a mere improvement in degree—is not invention.

The latest published decisions of this Court are to the same effect, and are uniform in sustaining beyond question or cavil the doctrines here contended for. We will content ourselves by citing two. Many others might be added. *Howe Machine Co. vs. National Needle Co., 134 U. S., 388*, involved the patentability of a gripping chuck, with a rest, cutting tool and guiding cam, for the purpose of turning points on wire, &c. The Court held:

The rule laid down in Pennsylvania Railroad vs. Locomotive Truck Company, 110 U. S., 490, that the application of an old process or machine to a similar or analogous subject, with no change in the manner of applying it, and no result substantially distinct in its nature, will not sustain a patent, even if the new form of result has not before been contemplated, has been applied in very many cases by this court. * * *

In the employment of the chuck, the rest, the cutting tool and the guide cam, in the making of awls and needles, the patentees displayed the skill of their calling, which involved only the exercise of the ordinary faculties of reasoning upon the materials supplied by a special knowledge and the facility of manipulation which results from its habitual and intelligent practice.

So also in *St. Germain vs. Brunswick*, 135 U. S., 227:

We think that competent knowledge and skill in his calling on the part of an intelligent mechanic would have enabled him, on request, to construct the revolving billiard cue rack in question without calling the inventive faculty into play.

The Judge by whom this case was decided very appropriately says:

> Without the aid of testimony in regard to the state of the art, I should be strongly inclined to say, upon the face of the patent, that it did not contain a patentable invention. * * * In order to produce the patented device, the customary skill of the worker in stone neither need, nor received, any aid from the inventive faculty.
>
> Opinion of Judge Shipman, pages 199–200 of *Record*.

Applying, then, the principles enunciated in all of the foregoing cases to this under consideration leads irresistibly to the conclusion that there is nothing new in the appellant's structure, either in the principle, means or manner of its construction, or in the purpose or use for which it was built, or in the result attained; that there is nothing here calling into play the inventive faculty; that no invention is disclosed in the structure, and therefore it is not patentable.

V.

The second claim of appellant's patent is invalid for additional reasons.

1. It was anticipated by the publication, "Monument Funeraires."

This book was published in 1863, and was put in evidence at page 159 of the Record. Among other things, this book gives three drawings of the vault of Marshal Lefebre. These copies of which are in the end of the Record, show a continuous roof stone locked to the front walls of the vault by means of a

mortise and tenon. Mr. Tuthill, an architect, so testifies (Record, pp. 171 and 181–2, x-Q. 194 and Q. 295). He also testifies that the end walls are the equivalents of gable stones (Record, p. 172, x-Q. 201), and that the latter "are the stones which compose the end walls of a structure" (Record, p. 175, Q. 239).

The appellant took no testimony on this branch of this case. It is submitted that on the evidence, said drawings show substantially the combination covered by the second claim.

2. The combination covered by the second claim was not original with appellant.

From the evidence it appears that appellant's alleged invention arose from an order received by him for the building of what is called in the case the "Beekman Vault," and which is claimed to be like that described in the patent. Although appellant contends that the vault roof as a whole was his invention, he admits that the idea of using continuous roof stones was not his, but was the suggestion of Mr. Beekman, for whom the vault was built. The appellant thus testifies (Record, p. 24):

151 x-Q. What part of this plan for the roof did Mr. Beekman suggest to you? A. Merely the three stones running the full length of the vault; the three upper stones running the full length of the vault.

He also testifies (Record, page 23–4, X-Q. 133 to 140) that the use of mortise and tenon for the purpose of locking stones "is a very old principle." And Scott, a stonesetter, one of appellants' witnesses, testifies that the object of the mortise and tenon in the roof structure is to keep the stones from slipping, and that such a device for the like purpose is old and well known in the art (Record, pages 31 to 33, X-Q. 79 to 103, and page 34, X-Q. 111 to 119). Similarly states *Gwilt*, as shown under Point I. of this brief.